PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE APPLICATION OF:	)	
Mark Duchow	)	
Serial No. 09/682,876	)	Examiner:
Filed: October 26, 2001	)	Group Art Unit: 2164
Title SYSTEM AND METHOD FOR PROVIDING ELECTRONIC VOUCHERS	)	Attorney Dkt. No. 05012.0003.CNUS01

PETITION TO MAKE SPECIAL UNDER 37 C.F.R. § 1.102
BECAUSE OF ACTUAL INFRINGEMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicant respectfully requests advancement of examination of the above-identified application pursuant to 37 CFR § 1.102.

In support of this petition, the undersigned, Michael K. Lindsey, herewith declares the following:

1.   I am an Attorney at Law, licensed to practice before the Bar of the State of Illinois and the United States Patent and Trademark Office (Registration No. 39,278). I am the attorney of record for Mark Duchow, inventor of the subject matter disclosed and claimed in the above-identified application Serial No. 09/682,876 ("'876 Application"), and have been engaged as a legal counsel of the assignee of record, MRD Holdings, LLC., W. 300 N. 1552 Timberbrook Road, Peewaukee, Wisconsin 53072.

2.   I am familiar with the subject matter claimed in Serial No. 09/682,876.

3.   A Preliminary Amendment was submitted in the '876 Application on July 16, 2002, canceling claims 1,13, 22 and 23 without prejudice or disclaimer. This petition is not based on these cancelled claims and is instead based on the remaining claims, as originally filed.

4.   I make this Declaration for the purpose of relating certain facts known by me to be true and certain information believed by me to be true, which facts and information are pertinent to this Petition to Make Special. Specifically, the facts and information related herein are of the type described in MPEP § 708.02 concerning showings necessary to support a Petition to Make Special because of actual infringement.

I.   General Statement Concerning The Subject Matter Disclosed And Claimed

5.   On-line marketing, advertising and promotion have become increasingly important in the competitive global marketplace. However, as with many other new technologies, Internet websites conventionally dedicated to advertising and marketing have encountered several problems that have limited their usefulness in some circumstances. One such circumstance involves the use of the Internet to promote products that are distributed to buyers through pre-existing "territorial" distribution systems. In a territorial distribution system, resellers are assigned geographic areas ("territories") in which they are allowed to sell the goods or services of a particular producer. Each reseller is typically given primary responsibility for the market within their respective territory, and they must usually pay for advertising and promotion of the producer's products within the territory.

In this type of distribution arrangement, a producer cannot typically provide a global discount or selling price over the Internet without upsetting its relationships with local resellers. For example, if a producer were to provide a global discount voucher to a buyer over the Internet, the buyer could take the voucher and redeem it at a reseller located outside the territory where the buyer is located. If this is done, the producer could be perceived as allowing some resellers to free ride on the time, money and effort that other resellers have put

into marketing within their own territories. Thus, the producer could be perceived as injuring the reseller that is losing sales.

To solve this problem, a system disclosed in the '876 Application provides an improved promotional website that downloads electronic vouchers, which are redeemable at selected resellers. A buyer can enter the website to view producer and product information. In the course of perusing the website, a buyer can enter personal information, such as an email address, mailing address or zip code. Based on the buyer information and product selection, a software program on the website can select a reseller geographically closest to the buyer. The website can then download an electronic voucher to the buyer, for redemption at the reseller. The voucher can indicate the name and location of the reseller, a cash value discount, and an expiration date.

The disclosed system overcomes the above-described limitation of known promotional and marketing websites because it permits producers to provided online purchasing incentives and then channel buyers to reseller locations appropriate for purchase, based on their particular distribution structure.

II. Showing With Respect to Evidence of Actual Infringement

6.   I have attached hereto printed materials which I believe are pertinent to the showing required under MPEP § 708.02 to the effect that "there is an infringing device or product actually on the market or method in use." See MPEP § 708.02 II(A).

7.   To my knowledge, there are at least two Internet websites that actually infringe some of the claims of the '876 Application. These websites are operated by two different companies and are basically described as follows:

A. Brunswick Corporation

8.   Brunswick Corporation operates a website, located at www.goboatingusa.com, that unquestionably infringes many of the claims of the '876 Application. Attached hereto as Exhibit 1 are copies of web pages and a .pdf file downloaded from the Brunswick site. The .pdf file includes a coupon offering a discount of up to $1000 upon purchase of a Bayliner® boat (or, at the buyer's option, a pre-paid MasterCard® in the same amount). Ex. 1 at 6. Also

included is an "index screen" web page, which invites buyers to enter personal information, select a preferred brand of boat, view products associated with the potential buyer's preferred brand of boat, and download the aforementioned coupon. Ex. 1 at 5. Upon entering the requested information in the relevant fields of the index screen, if a buyer elects to download a coupon, the website also displays the name and address of a retailer in the buyer's geographic area who carries the brand of boat selected by the buyer. Ex. 1 at 7. A buyer may arrive at the index screen either by clicking on one of numerous pop-up windows advertising "Go Boating USA" or by following a link entitled "Specials and Promotions" which offers the terms of the specials, as well as an opportunity to print those terms or to contact a dealer.

9.   As of May 31, 2002, the Brunswick website was operational and publicly available with the above-described features.

B. Tracker Marine, LLC

10.   Tracker Marine operates a website, located at www.greatamericanboatsale.com, that unquestionably infringes many of the claims of the '876 Application. Attached hereto as Exhibit 2 are copies of web pages from the Tracker Marine Site. The web pages include a coupon offering a $200 gift card for Bass Pro Shops®. Ex. 2 at 14. Also included is the "Step 1" screen, which invites buyers to select a favorite brand from eleven brands that are listed. Ex. 2 at 1,8. Next is the "Step 2" screen, which provides buyers with information about the Fisher promotion as well as other promotional information regarding the purchase of a boat. Ex. 2 at 3,10. Also on the "Step 2" screen, buyers are offered their selection of models of boats in the selected brand, and are prompted to enter a zip code to proceed. Ex. 2 at 3-4, 10-11. On the "Step 3" screen, buyers are invited to enter personal information, answer questions about their preferred price range and projected date of purchase, and also to select a participating dealer from several retailers in the buyer's geographic area whose names and addresses are listed. Ex. 2 at 5-6, 12-13.

11.   As of May 31, 2002 the Tracker Marine website was operational and publicly available with the above-described features.

III. Showing With Respect to a Comparison between the Claims of
the '876 Application and the Infringing Web Sites

12. I have attached hereto as Exhibit 3 claim charts that are pertinent to showing that I have made a rigid comparison of the infringing web sites with the claims of the above-referenced application. The claim charts provide an element-by-element comparison between the infringed independent claims and the above-identified web sites. In my opinion, claims 2-6, 8-11, 14-16, 18-19, 24-26, 28-29, 32-33, and 37 are unquestionably infringed.

IV. Statement With Respect to Prior Art

13. I have taken what I believe to be substantial steps to acquire knowledge of the prior art pertinent to the claims pending in the '876 Application. These steps have included the authorization of searches through patent databases by a third-party professional search firm to provide information concerning pertinent prior art in the form published U.S. patents and patent applications.

14. Based on the above-described search and review of items of prior art, I have caused to be made "a careful and thorough search of the prior art" with respect to the claimed subject matter.

15. Although the references were submitted in the '876 Application with a Supplemental IDS on July 16, 2002, for convenience, I have included, herewith in Exhibit 4, a copy of each prior art reference found by the above-described search.

16. I deem the following references in Exhibit 4 to be most closely related to the subject matter encompassed by the claims in the '876 Application:

Patent No.	Inventor
6,185,541 B1	Scroggie et al.
6,292,786 B1	Deaton et al.
6,330,543 B1	Kepecs
6,360,206 B1	Yamashita

V.   Statement With Respect to Allowability of the Claims

17.   It is my belief that all of the claims presently pending in the '876 Application are directed to allowable subject matter under the Patent Laws of the United States.
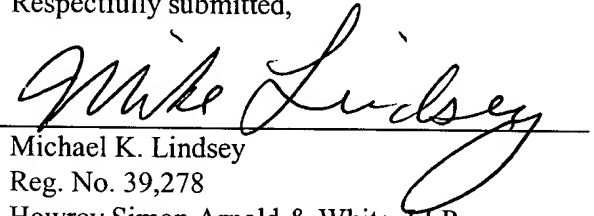
18.   I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that such willful, false statements may jeopardize the validity of the application or document or any patent resulting therefrom.

19.   Applicant encloses a fee of $130.00 pursuant to 37 C.F.R. § 1.17(h); however, the Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment, to Deposit Account No. 08-3038/05012.0003.CNUS01.

Respectfully submitted,

Date: 8/7/02

Michael K. Lindsey
Reg. No. 39,278
Howrey Simon Arnold & White, LLP
321 N. Clark Street, Suite 800
Chicago, Illinois 60610
(312) 595-1239

Attorney for Applicant

Go Boating USA!

Come on, America, and let's go boating! Bayliner, Trophy and Maxum have introduced more Americans to the freedom and excitement of boating than any other brand in the world. Please click on a link below to learn more about these exciting brands.

BAYLINER

MAXUM

TROPHY

Bayliner.com

Maxumboats.com

Trophyfishing.com

Thank you for visiting GoBoatingUSA.com. The Go Boating USA Days promotion has ended.

Privacy Statement
Copyright 2002

Exhibit 1
Page 1 of 11

All around fun.

BAYLINER

Showroom | New to Boating ? | Bayliner Information | Whats New | Dealer Locator | Site Map | Home

Fun. For life.

TROPHY
SPORTFISHING BOATS

Click here to see our
Sportfishing boats

Capri
Runabouts

Ciera
Cruisers

Rendezvous
Deckboats

Motoryacht
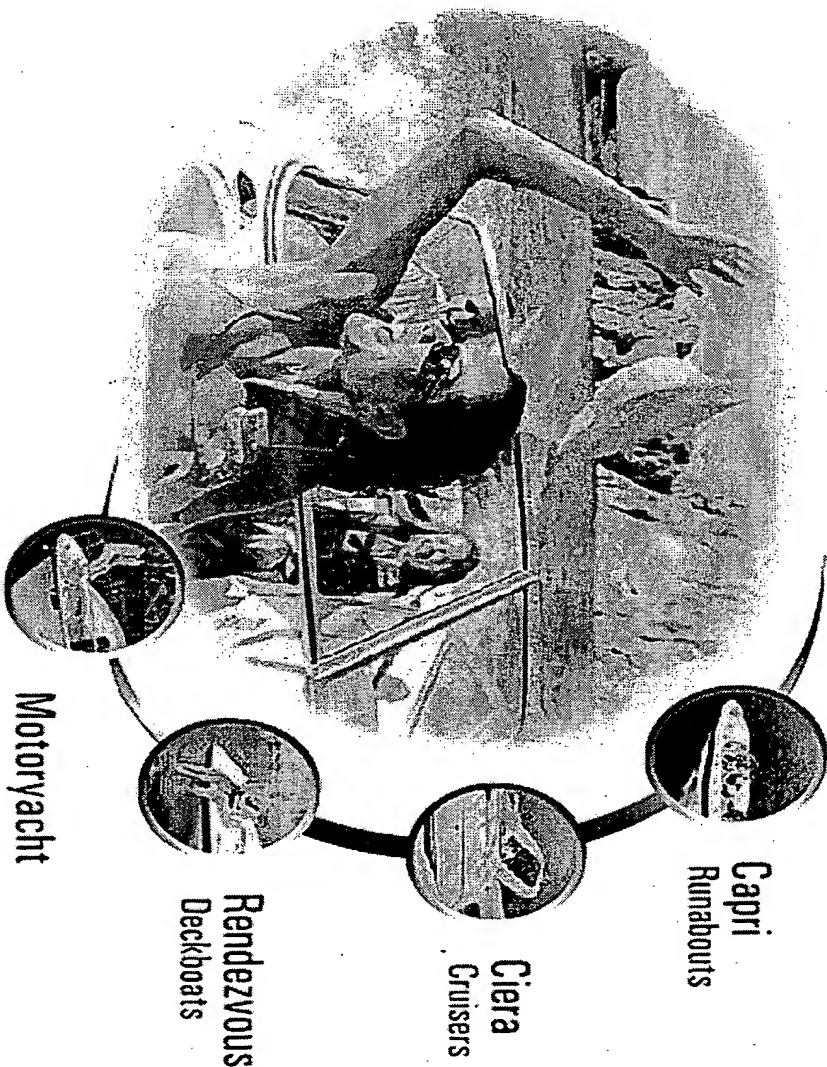
SPORT BOATS | SPORT DECKS | SPORT CRUISERS | SPORT YACHTS | DEALERS | HOME

1800SR 1800SRL 1900SR 2100SC 2100SR 2300SC 2300SR

Introducing the 2002
Maxum product line
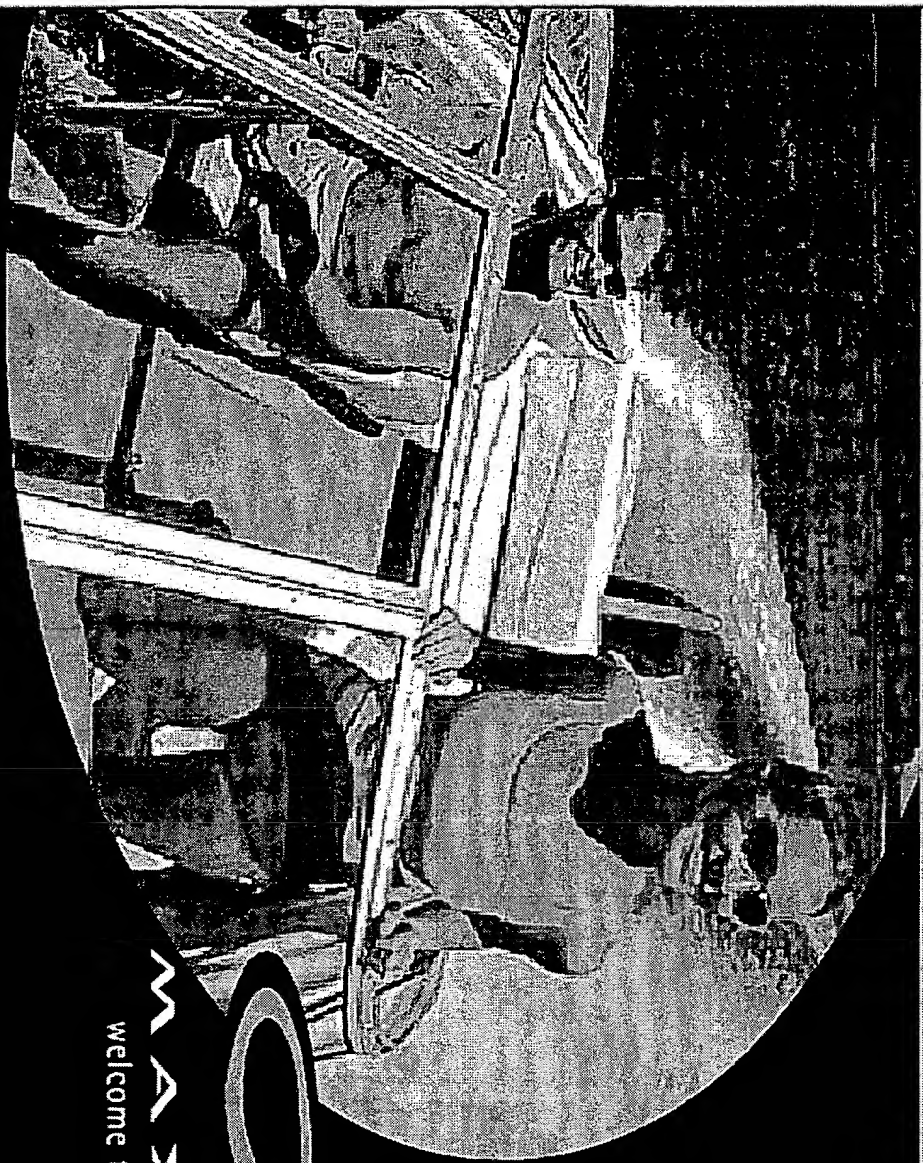
MAXUM
welcome to the edge™

WHAT'S NEW | GETTING STARTED | THE EDGE STORE | CONTROL MAX

Exhibit 1
Page 3 of 11

TROPHY
www.trophyfishing.com

Trophy Story | Dealer Search | Trophy News | Resources

Made just the way I like it, practical, smart and fishy

For the past 17 years, Trophy has been the best-selling, big-water fishing boat in America. It's the boat to beat, in fishability, in durability, in dependability...and in value. With standard equipment, Trophy is ready to go fishing the day you buy it.

2002 Models

Center Consoles
1703   2103
1903

Walkarounds
1802   2352
2002   2359
2052   2509
2302
2302

Specials & Promotions

Save up to $1,000 and Go Boating USA!

Incredible values on select models of Bayliner, Maxum and Trophy boats.

Discover fun and excitement on the water during Go Boating USA Days. Simply complete the form, download the special coupon, and take it to your local boat dealer. When you buy a new Bayliner, Maxum or Trophy, you'll get up to $1,000 off or, if you choose, a special Go Boating USA MasterCard® with a pre-paid spending limit of up to $1,000 to use toward purchases wherever MasterCard® is accepted. But don't delay. This offer ends June 1, 2002.

* First Name	mk
* Last Name	adfasd
Address	
City	chicago
State/Province	Illinois
* ZIP Code	60610
* E-mail	asdf@aol.com
Home Phone	

indicates required field

☑ I would like to receive email promotions about Bayliner, Maxum and Trophy boats.

Please select your brand.

⦿ BAYLINER   ○ MAXUM   ○ TROPHY

➡ **Download your coupon**

To view your savings coupon, you will need Acrobat Reader. Get the FREE Acrobat Reader NOW.

Maxum

Troph

Pri
(

There's never been a better time to enjoy the fun of boating.

Go Boating USA

Go Boating

Your Special Savings Coupon

54523140

Please choose:

☐ Pre-paid MasterCard® $ _____

☐ Cash off product $ _____

Cash-back values:

☐ 16' to 17' boat   = $300

☐ 18' boat   = $500

☐ 19 to 20' boat   = $750

☐ 21' to 23' boat   = $1,000

Boat model, serial number, and model year (to be filled out by salesperson)

Retailer name and retailer number (to be filled out by salesperson)

mk adfasd

Customer name

Phone number

Address

chicago

City

Illinois

State

60610

ZIP code

asdf@aol.com

E-mail address

Retailer signature/Salesperson signature

BAYLINER®

bayliner.com

Offer valid with the purchase of select eligible models from your participating dealer. Ineligible model: Bayliner Ciera 2252. Only new boats that are in dealer inventory and that have never before been sold or titled qualify for this offer. Incentive offers are as follows: 16' to 17' Bayliner (Capri) and Trophy models receive $300 savings. 18' Bayliner (Capri), Trophy, and Maxum models receive $500 savings. 19' to 20' Bayliner (Capri), Trophy, and Maxum models receive $750 savings. 21' to 23' Bayliner (Capri and Rendezvous), Trophy and Maxum models receive $1,000 savings. Incentive amounts shown are in US dollars. Customer must purchase and assume title on or before June 1, 2002. Only one coupon or pre-paid MasterCard® per boat purchase. This offer may be discontinued at any time without notice. Void where prohibited. Not valid in combination with any other offer or discount. Offer begins April 22, 2002 and expires June 1, 2002. This offer is fully transferable. No cash value. See your local participating retailer for details. Offer valid only in the United States and Canada.

goboatingusa.com

Exhibit 1

Page 6 of 11

Save up to $1,000 and Go Boating USA!

Y ur nearest participating dealer is:

Fox Lake Harbor
400 East Grand Avenue
Fox Lake, IL 60020
Contact Fox Lake Harbor
Phone: (847) 587-0200
Fax: (847) 587-0288
www.foxlakebayliner.com

Click Here For Directions To Fox Lake Harbor

Thank you for downlc
Go Boating USA cour

For more information, v
www.bayliner.com

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Exhibit 1
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$300 Off 16' t 17' Trophy   (ENDS: 6/1/2002)

Specials

GO BOATING USA! GO BOATING CANADA!

>> **$300 Off 16' to 17' Trophy**

Discover fun and excitement on the water during Go Boating USA Days. Visit www.goboatingusa.com to download the special coupon, and take it to your local Trophy dealer. When you buy a new 16' to 17' Trophy you'll get $300 off or, if you choose, a special Go Boating USA MasterCard® with a pre-paid spending limit of up to $300 to use toward purchases wherever MasterCard® is accepted. But don't delay. This offer ends June 1, 2002.

>> **$500 Off 18' Trophy**

>> **$750 Off 19' to 20' Trophy**

>> **$1,000 Off 21' to 23' Trophy**

APPLIES TO:
2001 Trophy Center Console 1703 - **View Details**
2001 Trophy Dual Console 1700 - **View Details**
2002 Trophy Center Console 1703 - **View Details**

DISCLAIMER:
Offer valid with the purchase of select eligible models from your participating dealer. Ineligible model: Bayliner Ciera 2252. Only new boats that are in dealer inventory and that have never before been sold or titled qualify for this offer. Incentive offers are as follows: 16' to 17' Bayliner (Capri) and Trophy models receive $300 savings. 18' Bayliner (Capri) and Trophy receive $500 savings. 19' to 20' Bayliner (Capri) and Trophy models receive $750 savings. 21' to 23' Bayliner (Capri and Rendezvous) and Trophy models receive $1,000 savings. Incentive amounts shown are in US dollars. Customer must purchase and assume title on or before June 1, 2002. Only one coupon or pre-paid MasterCard® per boat purchase. This offer may be discontinued at any time without notice. Void where prohibited. Not valid in combination with any other offer or discount. Offer begins on April 22, 2002 and expires June 1, 2002. This offer is fully transferable. No cash value. See your local participating retailer for details. Offer valid only in the United States or Canada.

Print | **Contact a Dealer**

$500 Off 18' Trophy   (ENDS: 6/1/2002)

Specials

GO BOATING USA! GO BOATING CANADA!

>> $300 Off 16' to 17' Trophy

Discover fun and excitement n the water during G Boating USA Days. Visit www.goboatingusa.com to d wnload the special coupon, and take it to your local Trophy dealer. When you buy a new 18'Trophy you'll get $500 off or, if you choose, a special Go Boating USA MasterCard® with a pre-paid spending limit of up to $500 to use toward purchases wherever MasterCard® is accepted. But don't delay. This offer ends June 1, 2002.

>> $500 Off 18' Trophy

>> $750 Off 19' to 20' Trophy

>> $1,000 Off 21' to 23' Trophy

APPLIES TO:
2001 Trophy Walkaround 1802 - View Details
2002 Trophy Walkaround 1802 - View Details

DISCLAIMER:
Offer valid with the purchase of select eligible models from your participating dealer. Ineligible model: Bayliner Ciera 2252. Only new boats that are in dealer inventory and that have never before been sold or titled qualify for this offer. Incentive offers are as follows: 16' to 17' Bayliner (Capri) and Trophy models receive $300 savings. 18' Bayliner (Capri) and Trophy receive $500 savings. 19' to 20' Bayliner (Capri) and Trophy models receive $750 savings. 21' to 23' Bayliner (Capri and Rendezvous) and Trophy models receive $1,000 savings. Incentive amounts shown are in US dollars. Customer must purchase and assume title on or before June 1, 2002. Only one coupon or pre-paid MasterCard® per boat purchase. This offer may be discontinued at any time without notice. Void where prohibited. Not valid in combination with any other offer or discount. Offer begins on April 22, 2002 and expires June 1, 2002. This offer is fully transferable. No cash value. See your local participating retailer for details. Offer valid only in the United States or Canada.

Print | Contact a Dealer

Exhibit 1

$750 Off 19' to 20' Tr phy   (ENDS: 6/1/2002)

GO BOATING USA! GO BOATING CANADA!

Discover fun and excitement n the water during Go B ating USA Days. Visit www.goboatingusa.com to download the special coupon, and take it to your local Trophy dealer. When you buy a new 19' to 20' Trophy you'll get $750 off or, if you choose, a special Go Boating USA MasterCard® with a pre-paid spending limit of up to $750 to use toward purchases wherever MasterCard® is accepted. But don't delay. This offer ends June 1, 2002.

Specials

>> $300 Off 16' to 17' Trophy

>> $500 Off 18' Trophy

>> $750 Off 19' to 20' Trophy

>> $1,000 Off 21' to 23' Trophy

APPLIES TO:
View models this special applies to

DISCLAIMER:
Offer valid with the purchase of select eligible models from your participating dealer. Ineligible model: Bayliner Ciera 2252. Only new boats that are in dealer inventory and that have never before been sold or titled qualify for this offer. Incentive offers are as follows: 16' to 17' Bayliner (Capri) and Trophy models receive $300 savings. 18' Bayliner (Capri) and Trophy receive $500 savings. 19' to 20' Bayliner (Capri) and Trophy models receive $750 savings. 21' to 23' Bayliner (Capri and Rendezvous) and Trophy models receive $1,000 savings. Incentive amounts shown are in US dollars. Customer must purchase and assume title on or before June 1, 2002. Only one coupon or pre-paid MasterCard® per boat purchase. This offer may be discontinued at any time without notice. Void where prohibited. Not valid in combination with any other offer or discount. Offer begins on April 22, 2002 and expires June 1, 2002. This offer is fully transferable. No cash value. See your local participating retailer for details. Offer valid only in the United States or Canada.

Print | Contact a Dealer

Exhibit 1
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$1,000 Off 21' to 23' Trophy   (ENDS: 6/1/2002)

Specials

GO BOATING USA! GO BOATING CANADA!

Discover fun and excitement on the water during Go Boating USA Days. Visit www.goboatingusa.com to download the special coupon, and take it to your local Trophy dealer. When you buy a new 21' to 23' Trophy you'll get $1,000 off or, if you choose, a special Go Boating USA MasterCard® with a pre-paid spending limit of up to $1,000 to use toward purchases wherever MasterCard® is accepted. But don't delay. This offer ends June 1, 2002.

>> $300 Off 16' to 17' Trophy

>> $500 Off 18' Trophy

>> $750 Off 19' to 20' Trophy

>> $1,000 Off 21' to 23' Trophy

APPLIES TO:
View models this special applies to

DISCLAIMER:
Offer valid with the purchase of select eligible models from your participating dealer. Ineligible model: Bayliner Ciera 2252. Only new boats that are in dealer inventory and that have never before been sold or titled qualify for this offer. Incentive offers are as follows: 16' to 17' Bayliner (Capri) and Trophy models receive $300 savings. 18' Bayliner (Capri) and Trophy receive $500 savings. 19' to 20' Bayliner (Capri) and Trophy models receive $750 savings. 21' to 23' Bayliner (Capri and Rendezvous) and Trophy models receive $1,000 savings. Incentive amounts shown are in US dollars. Customer must purchase and assume title on or before June 1, 2002. Only one coupon or pre-paid MasterCard® per boat purchase. This offer may be discontinued at any time without notice. Void where prohibited. Not valid in combination with any other offer or discount. Offer begins on April 22, 2002 and expires June 1, 2002. This offer is fully transferable. No cash value. See your local participating retailer for details. Offer valid only in the United States or Canada.

Print | **Contact a Dealer**

BUY A BOAT. GET FREE GEAR.

Welcome to the Great American Boat Sale!
Here you'll find special limited-time offers on America's most popular boat brands.

Pick your favorite brand from the five categories below and you will be just moments away from finding your next new boat!

Aluminum Fishing Boats
- ⊙ **Fisher Boats**
- ○ **TRACKER boats**

Performance Bass / Fish 'n Ski Boats
- ○ **NITRO**
- ○ **PRO craft BOATS**

Pontoon Boats
- ○ **Fisher Boats**
- ○ **Sun TRACKER**

Runabout and Deck Boats
- ○ **ASTRO BOATS**
- ○ **TAHOE**

Saltwater Fishing Boats
- ○ **KENNER BOATS**
- ○ **MAKO**
- ○ **SeaCraft**

★ CONTINUE ★

**BUY A BOAT.
GET FREE GEAR.**

Here you'll find special limited-time offers on Fisher, quality boats for a lifetime of fun and fishing.

The deal of a lifetime on the *boats for a lifetime* - FISHER

FOR A LIMITED TIME ONLY, May 1 - Jun 3, 2002, buy any FISHER <u>mod-v</u>, <u>deep-v</u> aluminum fishing or pontoon boat package from a participating dealer and get a Bass Pro Shops gift card worth up to $500.

A gift card so YOU can pick out the items YOU need or want for YOUR new boat - life jackets, rods and reels, anchor, fishing lures, water skis - the list to choose from goes on and on forever because we're talking about from Bass Pro Shops, the ultimate source for fishing and boating equipment.

The Bass Pro Shops gift cards vary in value from $200 - $500, depending on model of boat. To the right is a listing of Gift Card Values for the FISHER line of boats for a lifetime.

Your gift card will be sent out within two weeks of the date that delivery of your boat is reported to us by your dealer. Once received, the gift card can be used at any one of the 14 Bass Pro Shops Outdoor World retail locations. Or use it to order online at www.basspro.com or from the Bass Pro Shops catalog from the convenience of your home. A link to the Bass Pro site can be found on this site.

Special Interest Rates Available Now Too!
Not only can you buy a FISHER right now and equip it for FREE, but you can also take advantage of the

For more boat info:
1. Select a boat model below.
2. Enter your Zip Code at bot!
3. Click the MORE INFO butt

Boat Model	Gi
◉ 14 Avenger SC	
○ 14 Avenger T	
○ 16 Avenger SC	
○ 16 Avenger T	
○ 16 Avenger WT	
○ 16 Pro Avenger SC	
○ 16 Pro Avenger T	
○ 16 Sport Avenger	
○ 1600	
○ 1610 SS	
○ 17 Pro Avenger SC	
○ 17 Sport Avenger	
○ 1700	
○ 1710	
○ 19 Sport Avenger	

company's special low interest rates on long-term financing.

Qualifying buyers can get 6.9% APR on loans for up to 60 months, or 7.99% APR on loans for up to 120 months.

How does that translate into monthly payments? The answer is - more AFFORDABLE than ever! Your nearby participating Fisher dealer can provide you details. Look for his address and phone through the convenient Dealer Locator feature of the FISHER Boats website.

There is no better time than RIGHT NOW to buy the boat of your dreams. Use the "Customize Your Boat" feature on the FISHER Boats site to equip the very boat you want. Then visit your local participating FISHER dealer to take advantage of The Great American Boat Sale...you have a full season of spring and summer fun ahead.

- C Freedom 180
- C Freedom 180 Fish
- C Freedom 200 DLX
- C Freedom 200 DLX Fish
- C Freedom 220 DLX
- C Freedom 220 DLX Fish
- C Freedom 2200
- C Freedom 221 DLX
- C Freedom 2210
- C Freedom 240 DLX
- C Freedom 240 DLX Fish
- C Freedom 241 DLX
- C FX DV 18
- C Hawk 170 FS
- C Hawk 170 SC
- C Hawk 186 DC
- C Hawk 186 FS
- C Hawk 186 FS I/O
- C Liberty 240
- C Marsh Hawk 175 V
- C Pro Hawk 1860

For more information select a model above, enter your zip c lick the MORE INFO button:

Zip Code: 60010

★ MORE INFO

Exhibit 2
Page 4 of 14

BUY A BOAT. GET FREE GEAR.

1. Enter your information below.
2. Select a dealer near you.
3. Click the CONTINUE button.

* notes required fields

First Name: Mike *

Last Name: Lindsey *

E-mail: asdf@aol.com *

Address: 210 n 15th st *

City: Barrington *

State: Illinois *

Zip Code: 60010 *

Phone:

I plan to purchase a boat within: 30 days

The price range I am looking for is: Select range

☐ Please mail a brochure to me.

Select a participating Fisher dealer in your area:

⦿ Kings Island Marine, Inc.
500 S. Rt 12
Fox Lake, IL 60020
Approximately 17 miles away.

○ Main Marine & Ski
1101 N Main

Exhibit 2

Racine, WI 53402
Approximately 46 miles away.

○ R & R Sports Fishin' Hole
3115 E. Layton Ave.
Cudahy, WI 53110
Approximately 56 miles away.

★ CONTINUE ★

Exhibit 2
Page 6 of 14

BUY A BOAT.
GET FREE GEAR.

Thank you for your interest, Mike!
The information you supplied along with Boat and Dealer Information appears below.

Boat information:

Fisher 19 Sport Avenger
Includes Boat, 90 ELPTO, and Trailer.
(See dealer for details)

$400 Gift Card for FREE GEAR!

1. **Click Here** to view specs and features on this boat.

2. <u>Customize the boat to your liking!</u>

3. Run to your participating dealer to **BUY A BOAT** and **GET FREE GEAR!**

Your information:

Mike Lindsey
210 n 15th st
Barrington, IL 60010
asdf@aol.com
Purchase timeframe: *30 days*

Price range: *$30,001 and up*
Request brochure? No

Dealer information:

Kings Island Marine, Inc.
500 S. Rt 12
Fox Lake, IL 60020
(847)973-0297
kingsislandmarine@prodigy.net

<u>Click here to look at a different boat or brand.</u>

Exhibit 2

BUY A BOAT.
GET FREE GEAR.

Welcome to the Great American Boat Sale!
Here you'll find special limited-time offers on America's most popular boat brands.

Pick your favorite brand from the five categories below and you will be just moments away from finding your next new boat!

Aluminum Fishing Boats

○ Fisher Boats

○ TRACKER boats

Performance Bass / Fish 'n Ski Boats

○ NITRO.

○ PRO style BOATS

Pontoon Boats

○ Fisher Boats

○ Sun TRACKER

Runabout and Deck Boats

○ ASTRO BOATS

○ TAHOE

Saltwater Fishing Boats

○ KENNER BOATS

○ MAKO

○ SeaCraft

⭐ CONTINUE ⭐

*All prices are manufacturer suggested retail price in U.S. currency. Prices, specifications, and features are subject to change without notice. Total price excludes tax, title, registration, license tag, rigging and freight fees and charges. Photos may show optional equipment.

**BUY A BOAT.
GET FREE GEAR.**

Here you'll find special limited-time offers on Fisher, quality boats for a lifetime of fun and fishing.

The deal of a lifetime on the *boats for a lifetime* - <u>FISHER</u>

FOR A LIMITED TIME ONLY, May 1 - Jun 3, 2002, buy any FISHER <u>mod-v</u>, <u>deep-v</u> aluminum fishing or pontoon boat package from a participating dealer and get a Bass Pro Shops gift card worth up to $500.

A gift card so YOU can pick out the items YOU need or want for YOUR new boat - life jackets, rods and reels, anchor, fishing lures, water skis - the list to choose from goes on and on forever because we're talking about from Bass Pro Shops, the ultimate source for fishing and boating equipment.

The Bass Pro Shops gift cards vary in value from $200 - $500, depending on model of boat. To the right is a listing of Gift Card Values for the FISHER line of boats for a lifetime.

Your gift card will be sent out within two weeks of the date that delivery of your boat is reported to us by your dealer. Once received, the gift card can be used at any one of the 14 Bass Pro Shops Outdoor World retail locations. Or use it to order online at www.basspro.com or from the Bass Pro Shops catalog from the convenience of your home. A link to the Bass Pro site can be found on this site.

Special Interest Rates Available Now Too!
Not only can you buy a FISHER right now and equip it for FREE, but you can also take advantage of the company's special low interest rates on long-term financing.

Qualifying buyers can get 6.9% APR on loans for up to 60 months, or 7.99% APR on loans for up to 120 months.

How does that translate into monthly payments? The answer is - more AFFORDABLE than ever! Your nearby participating Fisher dealer can provide you details. Look for his address and phone through the convenient Dealer Locator feature of the FISHER Boats website.

There is no better time than RIGHT NOW to buy the boat of your

For more boat info:
1. Select a boat model below.
2. Enter your Zip Code at bott
3. Click the MORE INFO butt

	Boat Model	Gift C
◉	14 Avenger SC	
○	14 Avenger T	
○	16 Avenger SC	
○	16 Avenger T	
○	16 Avenger WT	
○	16 Pro Avenger SC	
○	16 Pro Avenger T	
○	16 Sport Avenger	
○	1600	
○	1610 SS	
○	17 Pro Avenger SC	
○	17 Sport Avenger	
○	1700	
○	1710	
○	19 Sport Avenger	

Exhibit 2

dreams. Use the "Customize Your Boat" feature on the FISHER Boats site to equip the very boat you want. Then visit your local participating FISHER dealer to take advantage of The Great American Boat Sale...you have a full season of spring and summer fun ahead.

- ○ Freedom 180
- ○ Freedom 180 Fish
- ○ Freedom 200 DLX
- ○ Freedom 200 DLX Fish
- ○ Freedom 220 DLX
- ○ Freedom 220 DLX Fish
- ○ Freedom 2200
- ○ Freedom 221 DLX
- ○ Freedom 2210
- ○ Freedom 240 DLX
- ○ Freedom 240 DLX Fish
- ○ Freedom 241 DLX
- ○ FX DV 18
- ○ Hawk 170 FS
- ○ Hawk 170 SC
- ○ Hawk 186 DC
- ○ Hawk 186 FS
- ○ Hawk 186 FS I/O
- ○ Liberty 240
- ○ Marsh Hawk 175 V
- ○ Pro Hawk1860

For more information select a model above, enter your zip c lick the MORE INFO button:

Zip Code/Postal Cod

MORE INFO

Exhibit 2

Page 11 of 14

BUY A BOAT.
GET FREE GEAR.

1. Enter your information below.
2. Select a dealer near you.
3. Click the CONTINUE button.

* notes required fields

First Name: | Greg | *
Last Name: | Bagley | *
E-mail: | cmcochra@wulaw.wus | *
Address: | 7828 Delmar Boulevard | *
City: | Saint Louis | *
State: | Missouri | *
Zip Code: | 63130 | *
Phone: | |

I plan to purchase a boat within: | 12 months |

The price range I am looking for is: | $30,001 and up |

☐ Please mail a brochure to me.

Select a participating Fisher dealer in your area:

◉ Bud's Place, Inc.
3550 W. Clay
Saint Charles, MO 63301
Approximately 14 miles away.

○ Twin City Marine, Inc.
2415 Hwy 67 South
Festus, MO 63028
Approximately 33 miles away.

Exhibit 2
Page 12 of 14

C Mt. Vernon Mariner
1800 South 10th Street
Mount Vernon, IL 62864
Approximately 80 miles away.

★ CONTINUE ★

*All prices are manufacturer suggested retail price in U.S. currency. Prices, specifications, and features are subject to change without notice.
Total price excludes tax, title, registration, license tag, rigging and freight fees and charges. Photos may show optional equipment.
Copyright ©2002, TRACKER Marine, L.L.C.

Exhibit 2
Page 13 of 14

BUY A BOAT.
GET FREE GEAR.

Thank you for your interest, Greg!
The information you supplied along with Boat and Dealer Information appears
below.

Boat information:

Fisher 14 Avenger SC
Includes Boat, 25 EL, and Trailer.
(See dealer for details)

$200 Gift Card for
FREE GEAR!

1. **Click Here** to view specs and features on this boat.

2. Customize the boat to your liking!

3. Run to your participating dealer to **BUY A BOAT** and **GET FREE GEAR!**

Your information:

Greg Bagley
7828 Delmar Boulevard
Saint Louis, MO 63130
cmcochra@wulaw.wustl.edu
Purchase timeframe: *12 months*

Price range: *$30,001 and up*
Request brochure? No

Dealer information:

Bud's Place, Inc.
3550 W. Clay
Saint Charles, MO 63301
(636)916-4411
askbuds@aol.com

Click here to look at a different boat or brand.

Comparison of '876 Claims to Infringing Websites

CLAIM 2

Claim Language	Brunswick Corporation www.goboatingusa.com	Tracker Marine, LLC www.greatamericanboatsale.com
A system for providing electronic vouchers, comprising:	Website accessable at www.goboatingusa.com	Website accessable at www.greatamericanboatsale.com
a means for running a structured computer program through a website by a buyer via a network;	Website server	Website server
a means for the structured computer program to access a product database, display a list of products from the product database to the buyer through the website, and receive a product selection from the buyer;	URL links to Bayliner.com, maxumboats.com, and trophyfishing.com. Web page at www.bayliner.com/Bayliner-Home.html having links to various boat models. Web page at www.maxumboats.com/index2.html showing links to various boat models. Web page at trophyfishing.com/showroom/-sshowroom.html showing links to boat models. Exhibit 1 at 1-4. Software on servers at the above-listed websites.	URL links on web page ~/step1.cfm to various boat manufacturers, e.g., Fisher Boats, Tracker Boats, etc. Web page at ~/step2.cfm displaying boat models for selected manufacturer. Exhibit 2 at 1-4, 8-11.
a means for the structured computer program to receive a plurality of buyer information;	Web pages displaying fields for entering first name, last name, mailing address, city, state, zip code, email, telephone, and preferred brand. Exhibit 1 at 5.	Web pages at ~/step2.cfm and ~/step3.cfm displaying fields for zip code, first name, last name, email, mailing address, telephone number, projected date of boat purchase, desired boat price range. Exhibit 2 at 5, 12-13.
a memory means for storing the product selection and the plurality of buyer information;	RAM or hard drive located at goboatingusa.com website.	RAM or hard drive located at greatamericanboatsale.com website.
a means for the structured computer program to access a reseller database and select a reseller from the reseller database based on the product selection and the plurality of buyer information; and	Software program executing at website for selecting reseller based on buyer's input of zip code and desired boat brand and model.	Software program executing at website for selecting dealer based buyer's input of zip code and desired boat brand and model.
a means for the structured computer program to communicate the reseller and a discount to the buyer.	Software program at website for downloading a .pdf file and web page displaying an electronic voucher and reseller information, respectively. Exhibit 1 at 6-7.	Software program at website for generating ~/confirm.cfm web page displaying dealer location and "Giftcard for Free Gear!" Exhibit 2 at 7, 14.

CLAIM 3

Claim Language	Brunswick Corporation www.goboatingusa.com	Tracker Marine, LLC www.greatamericanboatsale.com
A system for providing electronic vouchers comprising:	Website accessable at www.goboatingusa.com	Website accessable at www.greatamericanboatsale.com
a means for running a structured computer program through a website by a buyer via a network;	Website server	Website server
a means for the structured computer program to access a product database; display a list of products from the product database to the buyer through the website, and receive a product selection from the buyer;	URL links to Bayliner.com, maxumboats.com, and trophyfishing.com. Web page at www.bayliner.com/Bayliner-Home.html having links to various boat models. Web page at www.maxumboats.com/index2.html showing links to various boat models. Web page at trophyfishing.com/showroom/sshowroom.html showing links to boat models. Exhibit 1 at 1-4. Software on servers at the above-listed websites.	URL links on web page ~/step1.cfm to various boat manufacturers, e.g., Fisher Boats, Tracker boats, etc. Web page at ~/step2.cfm displaying boat models for selected manufacturer. Exhibit 2 at 1-4, 8-11.
a means for the structured computer program to receive a plurality of buyer information;	Web pages displaying fields for entering first name, last name, mailing address, city, state, zip code, email, telephone, and preferred brand. Exhibit 1 at 5.	Web page at ~/step3.cfm displaying fields for zip code, first name, last name, email, mailing address, telephone number, projected date of boat purchase, desired boat price range. Exhibit 2 at 5, 12-13.
a memory means for storing the product selection and the plurality of buyer information;	RAM or hard drive located at goboatingusa.com website.	RAM or hard drive located at greatamericanboatsale.com website.
a means for the structured computer program to access a reseller database and select a reseller from the reseller database based on the product selection and the plurality of buyer information;	Software program executing at Website for selecting reseller based on buyer's input of zip code and desired boat brand and model.	Software program executing at website for selecting dealer based buyer's input of zip code and desired boat brand and model.
a means for the structured computer program to access a discount database and select a discount from the discount database based on the product selection; and	Server application program and web pages, Exhibit 1 at 8-11.	Server application program and web pages, Exhibit 2 at 3,10.
a means for the structured computer program to communicate the reseller and the discount to the buyer.	Software program at Website for downloading a .pdf file and web page displaying an electronic voucher and reseller information, respectively. Exhibit 1 at 6-7.	Software program at website for generating ~/confirm.cfm web page displaying dealer location and "Giftcard for Free Gear!" Exhibit 2 at 7, 14.

CLAIM 4

Claim Language	Brunswick Corporation www.goboatingusa.com	Tracker Marine, LLC www.greatamericanboatsale.com
A system for providing electronic vouchers, comprising:	Website accessible at www.goboatingusa.com	Website accessible at www.greatamericanboatsale.com
a means for running a structured computer program through a website by a buyer via a network;	Website server	Website server
a means for the structured computer program to access a producer database, display a list of producers from the producer database to the buyer through the website, and receive a producer selection from the buyer;	Server application program and web page displaying URL links to bayliner.com, maxumboats.com, and trophyfishing.com.	Server application program and web page ~/step2.cfm displaying various manufacturers.
a means for the structured computer program to access a product database, display a list of products from the product database based on the producer selection to the buyer through the website, and receive a product selection from the buyer;	URL links to bayliner.com, maxumboats.com, and trophyfishing.com. Web page at www.bayliner.com/Bayliner-Home.html having links to various boat models. Web page at www.maxumboats.com/-index2.html showing links to various boat models. Web page at trophyfishing.com/showroom/sshowroom.html showing links to boat models. Exhibit 1 at 1-4. Software on servers at the above-listed websites.	URL links on web page ~/step1.cfm to various boat manufacturers, e.g., Fisher Boats, Tracker boats, etc. Web page at ~/step2.cfm displaying boat models for selected manufacturer. Exhibit 2 at 1-4, 8-11.
a means for the structured computer program to receive a plurality of buyer information;	Web pages displaying fields for entering first name, last name, mailing address, city, state, zip code, email, telephone, and preferred brand. Exhibit 1 at 5.	Web page at ~/step3.cfm displaying fields for zip code, first name, last name, email, mailing address, telephone number, projected date of boat purchase, desired boat price range. Exhibit 2 at 5, 12-13.
a memory means for storing the producer selection, the product selection, and the plurality of buyer information;	RAM or hard drive located at goboatingusa.com website.	RAM or hard drive located at greatamericanboatsale.com website.
a means for the structured computer program to access a reseller database and select a reseller from the reseller database based on the product selection and plurality of buyer information;	Software program executing at website for selecting reseller based on buyer's input of zip code and desired boat brand and model.	Software program executing at website for selecting dealer based buyer's input of zip code and desired boat brand and model.
a means for the structured computer program to access a discount database and select a discount from the discount database based on the producer selection and the product selection; and	Server application program and web pages, Exhibit 1 at 8-11.	Server application program and web pages, Exhibit 2 at 3, 10.
a means for the structured computer program to communicate the reseller and the discount to the buyer.	Software program at Website for downloading a .pdf file and web page displaying an electronic voucher and reseller information, respectively. Exhibit 1 at 6-7.	Software program at website for generating ~/confirm.cfm web page displaying dealer location and "Giftcard for Free Gear!" Exhibit 2 at 7,14.

CLAIM 14

Claim Language	Brunswick Corporation www.goboatingusa.com	Tracker Marine, LLC www.greatamericanboatsale.com
A method for providing electronic vouchers, comprising the steps of:	Operation of website accessible at www.goboatingusa.com	Operation of website accessible at www.greatamericanboatsale.com
providing access to a structured computer program through a website to a buyer via a network;	Public availability of website at www.goboatingusa.com	Public availability of website at www.greatamericanboatsale.com
displaying a plurality of products from a product database to the buyer through the website, receiving a product selection from the buyer, and storing the product selection in a memory means;	URL links to Bayliner.com, maxumboats.com, and trophyfishing.com. Web page at www.bayliner.com/Bayliner-Home.html having links to various boat models. Web page at www.maxumboats.com/-index2.html showing links to various boat models. Web page at trophyfishing.com/-showroom/sshowroom.html showing links to boat models. Exhibit 1 at 1-4. Software on servers at the above-listed websites.	URL links on web page ~/step1.cfm to various boat manufacturers, e.g., Fisher Boats, Tracker boats, etc. Web page at ~/step2.cfm displaying boat models for selected manufacturer. Exhibit 2 at 1-4, 8-11.
displaying a buyer information entry screen to the buyer through the website, receiving a plurality of buyer information from the buyer, and storing the plurality of buyer information in the memory means;	Web pages displaying fields for entering first name, last name, mailing address, city, state, zip code, email, telephone, and preferred brand. Exhibit 1 at 5. RAM or hard drive located at goboatingusa.com website.	Web page at ~/step3.cfm displaying fields for zip code, first name, last name, email, mailing address, telephone number, projected date of boat purchase, desired boat price range. Exhibit 2 at 5,12-13. RAM or hard drive located at greatamericanboatsale.com website.
selecting a reseller from a reseller database based on the product selection and the plurality of buyer information;	Software program executing at website for selecting reseller based on buyer's input of zip code and desired boat brand and model.	Software program executing at website for selecting dealer based buyer's input of zip code and desired boat brand and model.
communicating the reseller and a discount to the buyer.	Software program at website for downloading a .pdf file and web page displaying an electronic voucher and reseller information, respectively. Exhibit 1 at 6-7.	Software program at website for generating ~/confirm.cfm web page displaying dealer location and "Giftcard for Free Gear!" Exhibit 2 at 7,14.

CLAIM 15

Claim Language	Brunswick Corporation www.goboatingusa.com	Tracker Marine, LLC www.greatamericanboatsale.com
A method for providing electronic vouchers, comprising the steps of:	Operation of website accessable at www.goboatingusa.com	Operation of website accessable at www.greatamericanboatsale.com
providing access to a structured computer program through a website to a buyer via a network;	Public availability of website at www.goboatingusa.com	Public availability of website at www.greatamericanboatsale.com
displaying a plurality of products from a product database to the buyer through the website, receiving a product selection from the buyer, and storing the product selection in a memory means;	URL links to Bayliner.com, maxumboats.com, and trophyfishing.com. Web page at www.bayliner.com/Bayliner-Home.html having links to various boat models. Web page at www.maxumboats.com/index2.html showing links to various boat models. Web page at trophyfishing.com/showroom/sshow room.html showing links to boat models. Exhibit 1 at 1-4. Software on servers at the above-listed websites.	URL links on web page ~/step1.cfm to various boat manufacturers, e.g., Fisher Boats, Tracker boats, etc. Web page at ~/step2.cfm displaying boat models for selected manufacturer. Exhibit 2 at 1-4, 8-11.
displaying a buyer information entry screen to the buyer through the website, receiving a plurality of buyer information from the buyer, and storing the plurality of buyer information in the memory means;	Web pages displaying fields for entering first name, last name, mailing address, city, state, zip code, email, telephone, and preferred brand. Exhibit 1 at 5. RAM or hard drive located at goboatingusa.com website.	Web page at ~/step3.cfm displaying fields for zip code, first name, last name, email, mailing address, telephone number, projected date of boat purchase, desired boat price range. Exhibit 2 at 5, 12-13. RAM or hard drive located at greatamericanboatsale.com website.
selecting a reseller from a reseller database based on the product selection and the plurality of buyer information;	Software program executing at website for selecting reseller based on buyer's input of zip code and desired boat brand and model.	Software program executing at website for selecting dealer based buyer's input of zip code and desired boat brand and model.
selecting a discount from a discount database based on the product selection; and	Server application program and web pages, Exhibit 1 at 8-11.	Server application program and web pages, Exhibit 2 at 3,10.
communicating the reseller and the discount to the buyer.	Software program at Website for downloading a .pdf file and web page displaying an electronic voucher and reseller information, respectively. Exhibit 1 at 6-7.	Software program at website for generating with ~/confirm.cfm web page displaying dealer location and "Giftcard for Free Gear!" Exhibit 2 at 7, 14.

CLAIM 16

Claim Language	Brunswick Corporation www.goboatingusa.com	Tracker Marine, LLC · www.greatamericanboatsale.com
A method for providing electronic vouchers, comprising the steps of:	Operation of website accessible at www.goboatingusa.com	Operation of website accessible at www.greatamerican boatsale.com
providing access to a structured computer program through a website to a buyer via a network;	Public availability of website at www.goboatingusa.com	Public availability of website at www.greatamericanboatsale.com
displaying a plurality of producers from a producer database to the buyer though the website, receiving a producer selection from the buyer, and storing the producer selection in a memory means;	Server application program and web page displaying URL links to bayliner.com, maxumboats.com, and trophyfishing.com. Exhibit 1 at 1. RAM or hard drive located at server.	Server application program and web page ~/step2.cfm displaying various manufacturers. Exhibit 2 at 1-2, 8-9. RAM or hard drive located at server.
displaying a plurality of products from a product database to the buyer based on the producer selection through the website, receiving a product selection from the buyer, and storing the product selection in the memory means;	URL links to Bayliner.com, maxumboats.com, and trophyfishing.com. Web page at www.bayliner.com/Bayliner-Home.html having links to various boat models. Web page at www.maxumboats.com/index2.html showing links to various boat models. Web page at trophyfishing.com/showroom/sshowroom.html showing links to boat models. Exhibit 1 at 1-4. Software on servers at the above-listed websites. RAM or hard drive located at goboatingusa.com website.	URL links on web page ~/step1.cfm to various boat manufacturers, e.g., Fisher Boats, Tracker boats, etc. Web page at ~/step2.cfm displaying boat models for selected manufacturer. Exhibit 2 at 3-4, 10-11. RAM or hard drive located at greatamericanboatsale.com website.
displaying a buyer information entry screen to the buyer through the website, receiving a plurality of buyer information from the buyer, and storing the plurality of buyer information in the memory means.	Web pages displaying fields for entering first name, last name, mailing address, city, state, zip code, email, telephone, and preferred brand. Exhibit 1 at 5.	Web page at ~/step3.cfm displaying fields for zip code, first name, last name, email, mailing address, telephone number, projected date of boat purchase, desired boat price range. Exhibit 2 at 5, 12-13.
selecting a reseller from a reseller database based on the product selection and the plurality of buyer information;	Software program executing at website for selecting reseller based on buyer's input of zip code and desired boat brand and model.	Software program executing at website for selecting dealer based buyer's input of zip code and desired boat brand and model.
selecting a discount from a discount database based on the producer selection and the product selection; and	Server application program and web pages, Exhibit 1 at 8-11.	Server application program and web pages, Exhibit 2 at 3, 10.
communicating the reseller and the discount to the buyer.	Software program at website for downloading a .pdf file and web page displaying an electronic voucher and reseller information, respectively. Exhibit 1 at 6-7.	Software program at website for generating with ~/confirm.cfm web page displaying dealer location and "Giftcard for Free Gear!" Exhibit 2 at 7, 14.

CLAIM 24

Claim Language	Brunswick Corporation www.goboatingusa.com	Tracker Marine, LLC www.greatamericanboatsale.com
A method for providing electronic vouchers, comprising the steps of:	Operation of website accessible at www.goboatingusa.com	Operation of website accessible at www.greatamericanboatsale.com
accessing a structured computer program through a website via a network;	Public availability of website at goboatingusa.com.	Public availability of website at greatamericanboatsale.com
viewing a plurality of producers through the website and making a producer selection;	Server application program and web page displaying URL links to bayliner.com, maxumboats.com, and trophyfishing.com. Exhibit 1 at 1.	Server application program and web page ~/step2.cfm displaying various manufacturers. Exhibit 2 at 1-2, 8-9.
viewing a plurality of products through the website and making a product selection;	URL links to Bayliner.com, maxumboats.com, and trophyfishing.com. Web page at www.bayliner.com/Bayliner-Home.html having links to various boat models. Web page at www.maxumboats.com/-index2.html showing links to various boat models. Web page at trophyfishing.com/-showroom/sshowroom.html showing links to boat models. Exhibit 1 at 1-4. Software on servers at the above-listed websites.	URL links on web page ~/step1.cfm to various boat manufacturers, e.g., Fisher Boats, Tracker Boats, etc. Web page at ~/step2.cfm displaying boat models for selected manufacturer. Exhibit 2 at 3-4, 10-11.
viewing a buyer information entry screen through the website and entering a plurality of buyer information; and	Web pages displaying fields for entering first name, last name, mailing address, city, state, zip code, email, telephone, and preferred brand. Exhibit 1 at 5.	Web page at ~/step3.cfm displaying fields for zip code, first name, last name, email, mailing address, telephone number, projected date of boat purchase, desired boat price range. Exhibit 2 at 5, 12-13.
receiving an electronic voucher that includes a reseller and a discount.	Software program at website for downloading a .pdf file and web page displaying an electronic voucher and reseller information, respectively. Exhibit 1 at 6-7.	Software program at website for generating with ~/confirm.cfm web page displaying dealer location and "Giftcard for Free Gear!" Exhibit 2 at 7, 14.

CLAIM 32

Claim Language	Brunswick Corporation www.goboatingusa.com	Tracker Marine, LLC www.greatamericanboatsale.com
A method for providing a discount to a buyer that is redeemable at a specific reseller, comprising the steps of:	Operation of website accessable at www.goboatingusa.com	Operation of website accessable at www.greatamericanboatsale.com
advertising a plurality of discounts available for a plurality of products;	Web pages displayed at website, Exhibit 1 at 8-11.	Web pages displayed at website, Exhibit 2 at 3-4, 10-11.
being contacted by a buyer regarding the discounts;	Web page permitting buyer's voluntary submission of person information to the company via the Internet, Exhibit 1 at 8-11.	Web page permitting buyer's voluntary submission of person information to the company via the Internet, Exhibit 2 at 5-6, 12-13.
receiving a product selection and plurality of buyer information from the buyer;	Web pages, Exhibit 1 at 1-5.	Web pages, Exhibit 2 at 3-5, 10-13.
selecting a reseller and a discount based on the product selection and the plurality of buyer information; and	Software program executing at website for selecting reseller and discount based on buyer's input of zip code, desired boat brand and boat model.	Software program executing at website for selecting dealer based buyer's input of zip code, desired boat brand and boat model.
communicating the reseller and the discount to the buyer.	Software program at website for downloading a .pdf file and web page displaying an electronic voucher and reseller information, respectively. Exhibit 1 at 6-7.	Software program at website for generating ~/confirm.cfm web page displaying dealer location and "Giftcard for Free Gear!" Exhibit 2 at 7, 14.

US006381584B1

(54) **COMPUTERS IN A FINANCIAL SYSTEM**

(75) Inventor: Mark E. Ogram, Tucson, AZ (US)

(73) Assignee: Net MoneyIn Inc., Tucson, AZ (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 57 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: 09/657,277

(22) Filed: **Sep. 7, 2000**

Related U.S. Application Data

(63) Continuation of application No. 09/400,724, filed on Sep. 21, 1999, which is a continuation of application No. 09/166, 749, filed on Oct. 5, 1998, now Pat. No. 5,963,917, which is a continuation of application No. 08/597,017, filed on Feb. 5, 1996, now Pat. No. 5,822,737.

(51) Int. Cl.[7] G06F 17/60
(52) U.S. Cl. 705/26; 705/50; 705/64
(58) Field of Search 705/1, 26, 27, 705/50, 64, 75, 76, 77, 78, 79

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* cited by examiner

Primary Examiner—Edward R. Cosimano

(57)   **ABSTRACT**

An automated payment system particularly suited for purchases over a distributed computer network such as the Internet. In such a distributed computer network, a "merchant" computer contains certain promotional information which is communicated to a "customer's" computer. Based upon the promotional information, the operator of the "customer's" computer decides to purchase the services or goods described by the promotional information. The "customer's" computer is linked to a "payment processing" computer and the customer's account number and the amount of the goods or services is transmitted to the "payment processing" computer. The "payment processing" computer automatically contacts a "bank" for verification of the account and amount; the "bank" transmits an authorization to the "payment processing" computer. The "payment processing" computer communicates an acceptance indicia to the "merchant" computer.

7 Claims, 8 Drawing Sheets

FIG. 1A

FIG. 1B

9

PRODUCT
LISTING

7A {
PART NUMBER
MERCHANT ID
COST
DESCRIPTION
AUTHORIZED
RETURN URL
REJECTED
RETURN URL
8A { PASSWORD

MERCHANT
LISTING

7B {
MERCHANT ID
BUSINESS NAME
CONTACT NAME
BUSINESS ADDRESS
E-MAIL ADDRESS
8B { BANK NUMBER

ACCOUNT
LISTING

7C {
TRANSACTION
NUMBER
DATE
AMOUNT
PART NUMBER
CREDIT CARD
NUMBER
8C {
AUTHORIZATION
NUMBER

FIG. 1C

NETWORK

21

22

CUSTOMER

MERCHANT

20

FIG. 2A

NETWORK

21

22

CUSTOMER

MERCHANT

23

20

PAYMENT
PROCESSING

FIG. 2B

NETWORK

21

22

CUSTOMER

MERCHANT

20

24

23

PAYMENT
PROCESSING

FIG. 2C

25

CREDIT CARD
SERVER

NETWORK

21

CUSTOMER

22

MERCHANT

23

20

PAYMENT
PROCESSING

FIG. 2D

NETWORK

21

CUSTOMER

22

MERCHANT

20

25

24

23

PAYMENT
PROCESSING

CREDIT CARD
SERVER

26

MERCHANT'S
BANK

FIG. 2E

31 — XYZ CO.   30A
32 — NEW WIDGET
33 — $14.95
34 — P/N 10234   PAY   35

FIG. 3A

31 — XYZ CO.   30B
32 — NEW WIDGET   36
33 — $14.95
34 — P/N 10234

37A   37B
PART NO. ///////
AMOUNT ///////
CARD NO. ///////
SEND   CANCEL
37D   37C
37E

FIG. 3B

30C
31 — XYZ CO.
32 — NEW WIDGET   38
33 — $14.95
34 — P/N 10234

39A   39B
ACCEPTED!
TRANSACTION NO =
A1483
PASSWORD: GO
PROCEED
39D   39C

FIG. 3C

30D
31 — XYZ CO.
ENTER PASSWORD
TO PROCEED
PASSWORD ///////
29

FIG. 3D

START — 40A

CONNECT WITH CUSTOMER — 41A

DOWNLOAD ENCRYPTION SOFTWARE — 41B

ACCT. NO., AMT., PRODUCT/SERVICE — 42A

CONNECT WITH CREDIT CARD SERVER — 41C

TRANSMIT ACCT. NO. AMT. — 41D

AUTHORIZATION DATA — 42B

DISCONNECT CREDIT CARD SERVER — 41E

GENERATE TRANSACTION INDICIA — 41F

RETRIEVE PASSWORD FOR PRODUCT/SERVICE — 41G

TRANSMIT PASSWORD AND TRANSACTION INDICIA TO CUSTOMER — 41H

DISCONNECT CUSTOMER — 41I

STOP — 40B   FIG. 4A

FIG. 4B

START — 43A

CONNECT WITH CUSTOMER — 44A

MERCHANT URL — 45A

IDENTIFY MERCHANT NO. AND PART NO., AMT. — 44B

DOWNLOAD ENCRYPTION SOFTWARE — 44C

ACCOUNT NO. — 45B

CONNECT WITH CREDIT CARD SERVER — 44D

TRANSMIT ACCOUNT NO. AND AMOUNT — 44E

AUTHORIZATION CODE — 45C

DISCONNECT CREDIT CARD SERVER — 44F

AUTHORIZED? — 46A — Y / N

DETERMINE REJECTED URL — 44G

RETURN REJECTED URL — 44H

DISCONNECT CUSTOMER — 44I

STOP — 43B

GENERATE TRANSACTION ID — 44J

STORE TRANSACTION ID, DATE, AMOUNT, MERCHANT NO. — 44K

RETRIEVE PASSWORD — 44L

TRANSMIT PASSWORD AND TRANSACTION ID — 44M

DETERMINE AUTHORIZED URL — 44N

SERVICE? — 46B — Y / N

TRANSMIT TRANSACTION ID, AMT. DATE, TO MERCHANT — 44O

RETURN TO AUTHORIZED URL — 44P

DISCONNECT CUSTOMER — 44Q

STOP — 43C

FIG. 5

START — 50A

CONNECT WITH CUSTOMER — 51A

PROMOTIONAL INFORMATION — 52A

PASSWORD FROM CUSTOMER — 52B

PASSWORD CORRECT ? 53A

FIRST TRY ? 53B

Y

N

SECURE DATA — 51D

51C

DISCONNECT — 51B

STOP — 50B

DISCONNECT

STOP — 50C

N

COMPUTERS IN A FINANCIAL SYSTEM

BACKGROUND OF THE INVENTION

This is a continuation of U.S. patent application Ser. No. 09/400,724, filed on Sep. 21, 1999, and entitled "Financial System of Computers", which was a continuation of U.S. patent application Ser. No. 09/166,749 filed on Oct. 5, 1998, and entitled "Financial System of Computers", now U.S. Pat. No. 5,963,917, issued on Oct. 5, 1999, which was a continuation of U.S. patent application Ser. No. 08/597,017, entitled "An Improved Financial Transactions System" filed Feb. 5, 1996, now U.S. Pat. No. 5,822,737, issued on Oct. 13, 1998.

This invention relates generally to financial transactions and more particularly to transactions involving credit or debit cards.

The time is fast approaching where a significant amount of commerce will be conducted using distributed networks of computers such as the Internet. The reason this ground-swell of commerce will occur is the ability of a single merchant to economically reach a vast number of potential customers at substantially no costs. Further, the customers are able to review a great number of vendors and their products with the ease of a few key strokes and clicks of the mouse.

Although there are vast numbers of merchants already using such networks, the sales volume has been particularly low due to a variety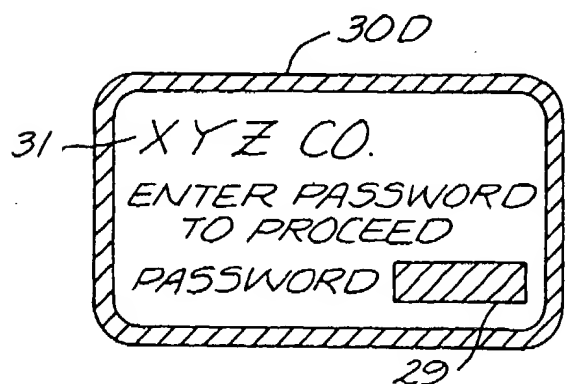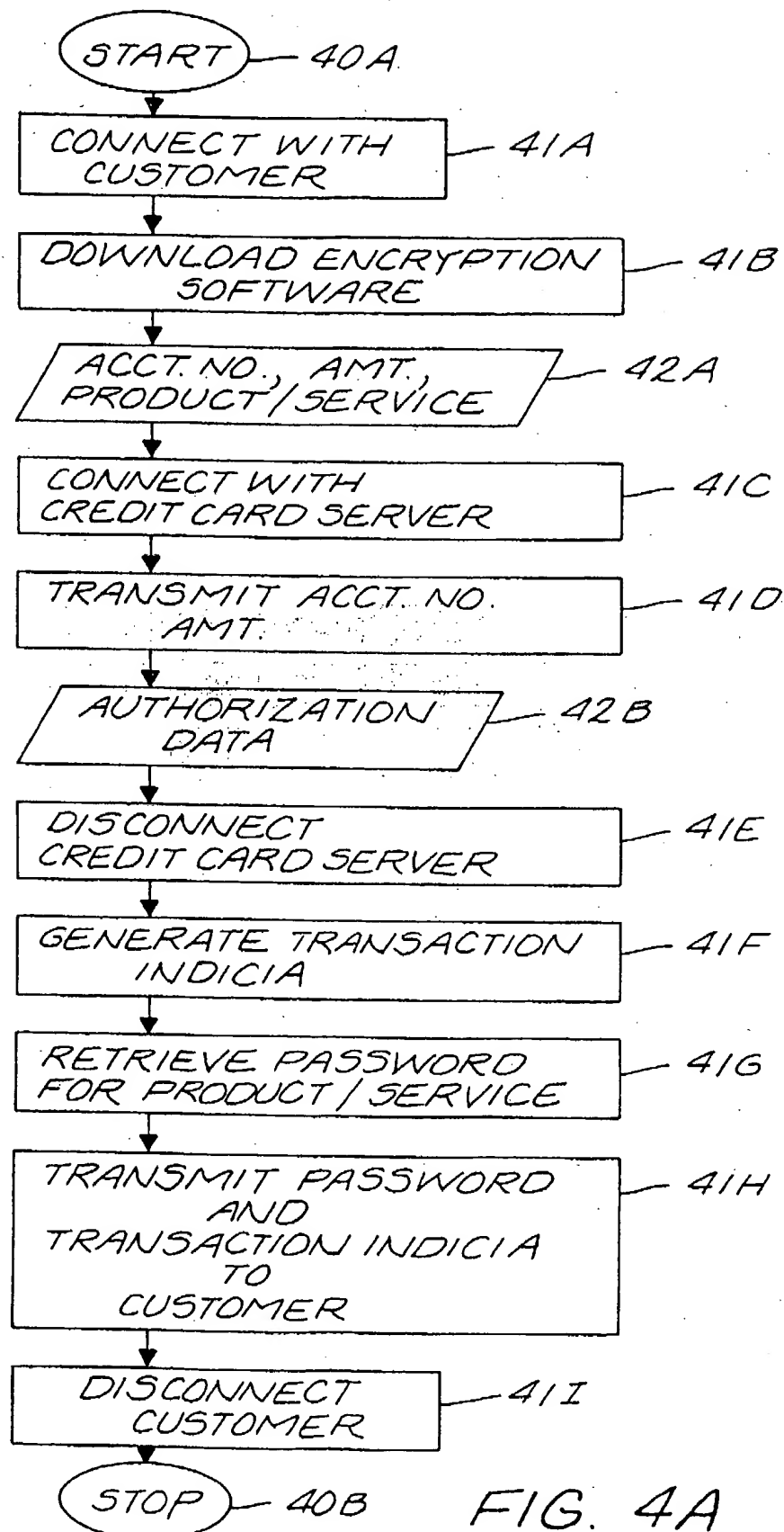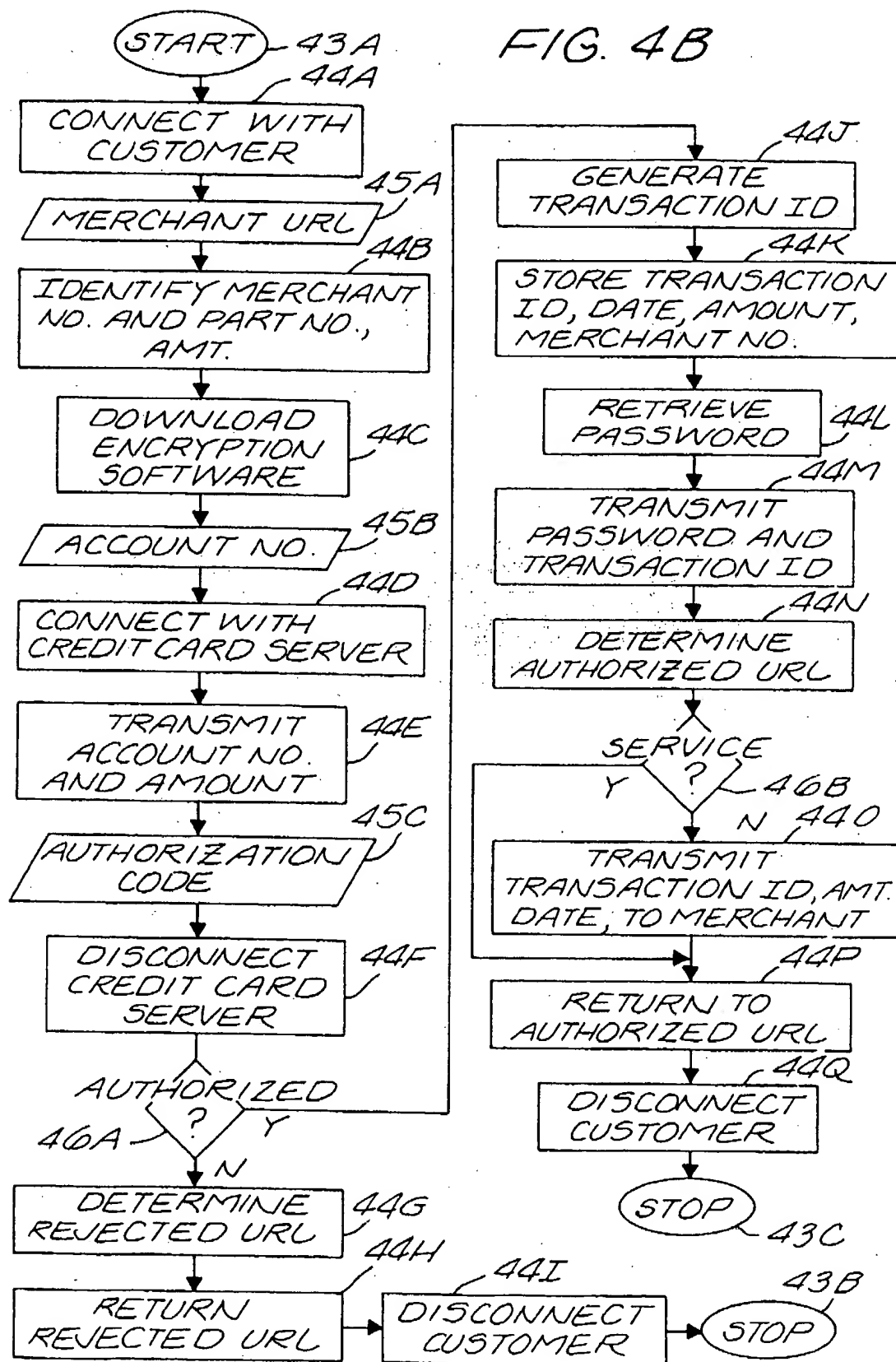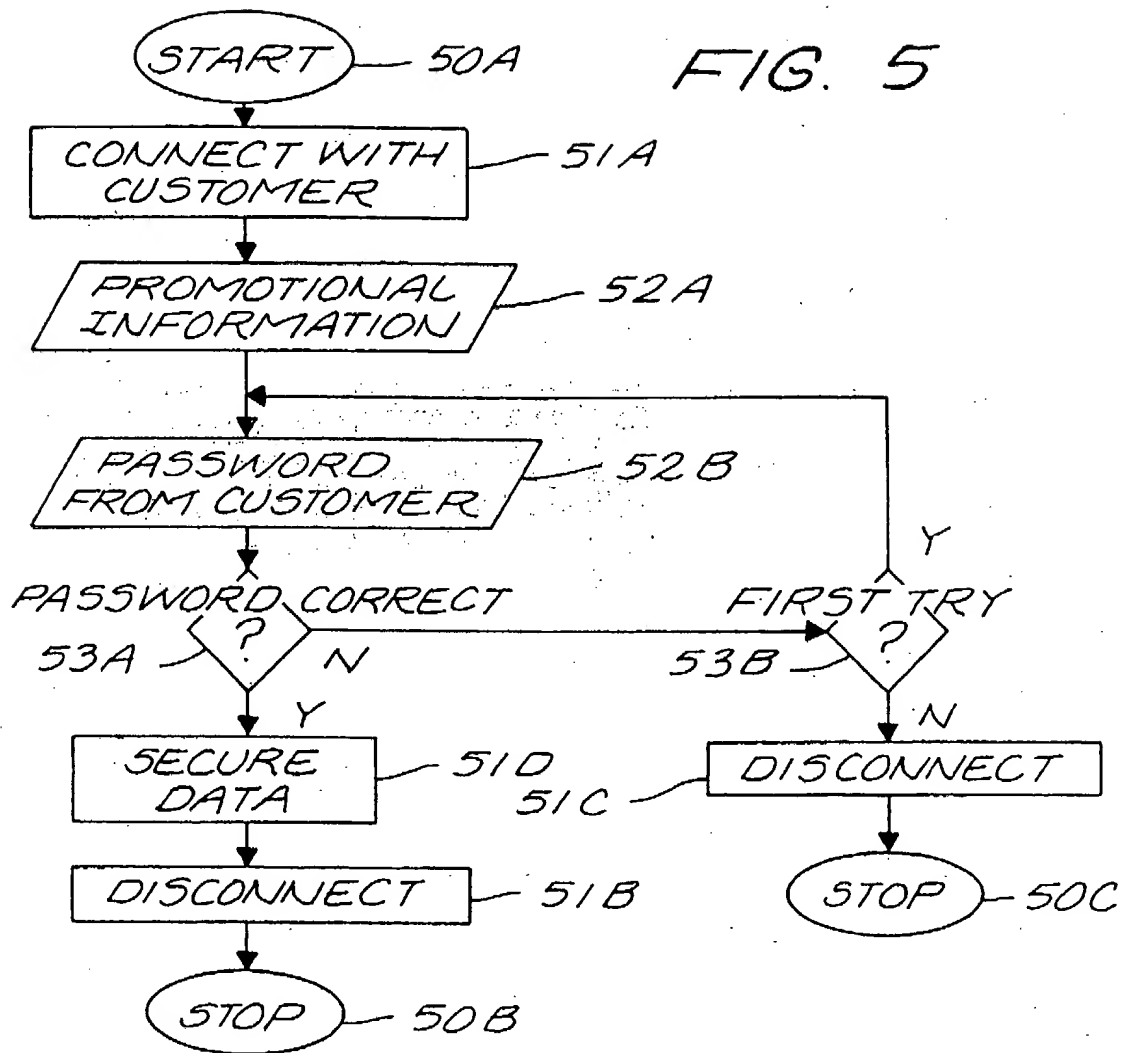 of reasons. One reason which has depressed commerce on the networks, is the difficulty with which customers can pay for their purchases.

A variety of techniques have been developed to cure this problem ranging from accepting phone orders to the establishment of another currency called "E-Cash".

Phone orders in response to merchant promotional materials creates a variety of problems. One major problem is the requirements for phone lines and personnel to receive and process the phone orders. Another hurdle is the simple fact that most customers have a single phone line to their residence and this line is used by the computer for accessing the network; the customer has to disconnect from the network to make the phone order.

Although E-Cash is a viable alternative, it is faced with some enormous problems which will be difficult or impossible to address. These include: counterfeiting problems, government reluctance to accept the concept; difficulties in getting access for handling E-Cash; and, the low number of users and merchants which can use E-Cash.

It is clear from the foregoing that there is a need for an efficient methodology and system to accept payment over distributed computer networks.

SUMMARY OF THE INVENTION

The present invention contemplates a totally automated system for securing payment via a distributed network of computers. In this context, the invention creates an automated payment system particularly suited for purchases over a network such as the Internet.

Although the present invention is described relative to the Internet, its application is not so limited and is intended to be used on any distributed computer system in which merchants and consumers interact for the purpose of supplying and purchasing goods or services.

In such a distributed computer network, a merchant or vending computer contains certain promotional information which is communicated to a customer's computer. This

information is intended to give the customer sufficient information to make a decision on if the goods/services are acceptable.

As used within this discussion, the term "merchant computer" signifies a computer system which is used for the purpose of selling goods or services. The vendor itself does not necessarily own the computer, in some situations, the computer is operated on behalf of the merchant or vendor.

Based upon the promotional information, the consumer/operator of the customer's computer decides to purchase the services or goods described by the promotional information.

It is at this point where the present invention is particularly powerful as it provides a simple, easy, methodology and linkage for the customer to pay for the goods/services.

In this context, the customer's computer is linked to a payment processing computer and the customer's credit card number and the amount of the goods or services is transmitted to the payment processing computer. For security reasons, an encrypting software package is first downloaded to the customer's computer so that the credit card number is secure from "hackers" who might also be on the network.

Although the term "credit card" is used, the invention covers the use of any type of financial guarantee card such as automatic debit accounts, checking account numbers, savings account numbers, and other such devices obvious to those of ordinary skill in the art.

The payment processing computer automatically contacts a bank for verification of the credit card and amount; the bank transmits an authorization to the payment processing computer. This authorization, usually in the form of a number, is stored within the payment processing computer's memory for later reference.

The link or connection with the bank is terminated by the payment processing computer and the payment processing computer turns its attention to the customer's computer. The payment processing computer communicates a self-generated transaction indicia, and in some embodiments a password, to the customer's computer.

The transaction indicia is generated by the payment processing computer for proper record keeping. The transaction indicia is also used by the customer to verify that an order has been generated and accepted.

The password is defined by the merchant's computer for the payment processing computer to pass along to the customer's computer. The password is used by the customer's computer to gain access to restricted material within the merchant's computer.

As example, assume the merchant's computer is supplying information as to genealogy. As an initial process, the customer enters the name being researched and receives a preliminary report on the genealogy (the promotional material). To proceed though, and get the actual data, the customer must pay to access this further information.

To do so, the customer links with the payment processing computer, and in the manner outlined above, receives back the transaction indicia and the password. The payment processing computer links the customer computer back to the merchant computer; the customer provides the password to the merchant's computer and is given access to the full genealogy report.

As outlined in this example, in the embodiment where a password is used, the customer's computer uses the password with the merchant's computer in obtaining access to protected information or to establish shipping instructions.

The re-linking of the customer computer to the merchant computer is accomplished in a variety of ways. In the

preferred embodiment, the payment processing computer
obtains the merchant's address or Unique Recognition Loca-
tion (URL) from the customer computer when the customer
connects with the payment processing computer. This URL
is used in a variety of ways, to identify the merchant, to 5
establish the amount of the product/service, and to establish
the return URL when the payment processing computer is
done with its task for the customer computer.

By selective use of the URL on the merchant's part, the
URL transmits a tremendous amount of information to the 10
payment processing computer. As example, assume the URL
for the home-page of the merchant is: /merchant.com/
widget.

When the merchant is selling a single product (a widget),
this URL is easy to match to the product. When the merchant 15
wants to sell a variety of widgets, then for a blue widget, the
URL might be: merchant.com/widget/blue.

In some embodiments, the customer's computer is not
linked back to the originating URL of the Merchant com-
puter but rather to another URL. The return URL is stored 20
in the payment processing computer and is used when the
Merchant wants the customer/consumer to be passed back to
a different location (i.e. where the restricted access infor-
mation is accessible, or to inform the consumer that their
card has been rejected). 25

The invention, together with various embodiments
thereof, will be more fully explained by the accompanying
drawings and the following descriptions.

DRAWINGS IN BRIEF 30

FIGS. 1A and 1B are block diagrams of the two computer
configurations used in the preferred embodiment.

FIG. 1C is a graphical representation of the preferred
memory organization for the computer illustrated in FIG. 35
1A.

FIGS. 2A, 2B, 2C, 2D, and 2E graphically illustrate the
connections and disconnections of the preferred order.

FIGS. 3A, 3B, 3C, and 3D are frontal views of one
embodiment of a consumer's display screen. 40

FIG. 4A is a flowchart of the preferred embodiment's
payment processing operation.

FIG. 4B is a flow-chart of an alternative embodiment's
payment processing operation.

FIG. 5 is a flow-chart of the operation of the merchant's 45
computer.

DRAWINGS IN DETAIL

FIGS. 1A and 1B are block diagrams of the two computer
configurations used in the preferred embodiment. 50

FIG. 1A illustrates the configuration of the preferred
payment processing computer. As shown, computer 10A is
a simple layout of a Central-Processing-Unit (CPU) 11A
which uses both non-volatile memory 12A and Random- 55
Access-Memory (RAM) 13A.

Communication to and from CPU 11A is via modem 14A
which communicates with other computers via the network
connected by phone line 15A.

Computer 10B, illustrated in FIG. 1B, shows the preferred 60
computer configuration used for the merchant computer and
the customer computer. Again, CPU 11B is connected to
memories RAM 13B and non-volatile memory 12B. In the
case of the merchant computer, the promotional material is
stored on non-volatile memory 12B and is retrieved and 65
communicated by CPU 11B using modem 14B and phone
line 15B.

This system is able to communicate with an operator via
monitor 16 for visual information. Monitor 16 is used for the
perusal of the promotional material by the customer.

Keyboard 17 is used to communicate operator commands
to CPU 11B. In like fashion, mouse input device 18 is also
used for operator input to CPU 11B.

Optional printer 19 is used to create a hard copy of the
material being displayed to the operator/customer via moni-
tor 16.

The differences between the computers shown in FIGS.
1A and 1B are pronounce since the payment processing
computer of FIG. 1A does not require input or direction from
a human operator. Rather, in the preferred embodiment, the
payment processing computer runs totally automatically and
collects all of the data and information it requires for its
operation automatically from the computers with which it is
linked and with what is stored in its memory.

FIG. 1C is a graphical representation of the preferred
memory organization for the computer illustrated in FIG.
1A.

Memory 9, located preferably in non-volatile memory
12A, has three sections. The first section 8A is the product
listing reference which is composed of multiple groupings.
This data remains relative constant and is defined by the
merchant. Each grouping, such as 7A, includes data identi-
fying:

Part Number

Merchant Identification

Cost of Product/Service

Description of the Product/Service

Authorized Return URL

Rejected Return URL

Password

The second section is for defining the merchant's infor-
mation. Each grouping 7B within section 8B contains rela-
tive constant information such as:

Merchant Identification

Business Name

Contact Name within the Business

Business Address

E-Mail address for the Business

Bank Checking Number for the Business

The third section 8C is an accounting listing which is
constantly up-graded as new payments are processed. This
section is used for making full accounting to the various
merchants. Grouping 7C within section 8C contain:

Transaction Number

Date of transaction

Amount of the transaction

Part number involved in transaction

Credit Card Number

Authorization Number

The authorization number is the indicia received from the
bank indicating that the credit card charge has been
accepted.

The use of memory 9 allows the payment processing
computer to have access to the necessary information to
handle the linkage and perform the proper accounting.

FIGS. 2A, 2B, 2C, 2D, and 2E graphically illustrate the
connections and disconnections of the preferred order.

Referring to FIG. 2A, in a typical fashion, a consumer via
customer computer 21 enters the network 20 and searches
through various merchant computers until the consumer

locates the merchant of choice and connects with merchant computer 22. Merchant computer 22 communicates the promotional material via network 20 to customer computer 21.

When the consumer decides to buy the service or product from merchant 22, as shown in FIG. 2B, the link with merchant computer 22 is broken and customer computer 21 links with the payment processing computer 23. In the change from merchant computer 22 to payment processing computer 23, an indicia of the URL or the product being promoted by merchant computer 22 is communicated to the payment processing computer 23.

The indicia as a URL of the last site is available through normal network operations and its handling is obvious to those of ordinary skill in the art. The product number is easily combined with the URL; thereby making the product number also available to the payment processing computer 23.

In some embodiments, the originating URL is crossed checked to a memory data base to achieve the product number. In this embodiment, the merchant structures its material so that only a single product/service is associated with a specific URL.

Using the product number (or developing the product number from the merchant's URL), the payment processing computer is able to cross reference its own memory (as described earlier) to achieve other important information including: the amount of the product/service, a description of the product/service, the name and address of the merchant, and other which will be used in later operations.

The payment processing computer 23 accepts from the customer computer 21, the credit card account number which is to be debited the amount of the product.

As shown in FIG. 2C, in this embodiment, while maintaining linkage with the customer computer 21, the payment processing computer 23 establishes a link via phone lines 25 with the credit card server computer 24. The credit card account number and amount is communicated to the credit card server computer 24 which responds to the payment processing computer 23 with an authorization indicia. This authorization indicia gives the acceptance or denial of the charge.

If a product is to be shipped, and if the charge has been authorized, as shown in FIG. 2D, the payment processing computer 23 connects with the merchant computer 22 and directs the merchant to ship the product to the consumer.

As shown in FIG. 2E, since the payment processing computer 23 has identified the product number, it is able to retrieve from its memory the URL for reconnecting the customer computer 21 with the merchant computer 22. In this manner, the entire operation is totally transparent to the consumer since they feel they have been continuously working with the merchant computer 22.

Further, using the URL's from its memory, the payment processing computer 23 is able to link the customer computer 21 to the merchant computer 22 at an address which is different from where the consumer was originally connected. In this manner, the payment processing computer 23 is able to direct the consumer to different locations which are consistent with the authorization indicia (accept/reject) on their credit card.

As example, assume, the credit card was authorized, then the consumer could be reconnected to an area which has restricted access so that the consumer can gain the information paid for; if on the other hand, the credit card was rejected, the connection would be to a page indicating such and possibly asking for another card number.

In this manner, the payment processing computer 23 is able to control the operation and interface between the customer computer 21 and the merchant computer 22.

Periodically, the payment processing computer 23 connects via the phone lines 25 with the credit card server 24 and instructs it to transfer the appropriate amount of funds to the merchant's bank computer 26 so that the merchant has access to the funds paid for his product/service provided to the consumer.

FIGS. 3A, 3B, 3C, and 3D are frontal views of one embodiment of a consumer's display screen.

Screen 30A is designed to provide the promotional information so that the consumer is attracted to purchase the product. In screen 30A is the name of the merchant company (XYZ CO.) 31, the name of the product (widget) 32, the price ($14.95) 33, and the part number (#10234) 34.

Also located on screen 30A is a software key 35 which allows the consumer to pay for the product. In this embodiment, by activating this software key 35 (typically through a click of the mouse), screen 30A is changed to screen 30B which is identical except that the software key 35 has been replaced with an order window 36.

Order window 36 allows the consumer to complete the necessary information to order the product. This includes the part number 37A, the amount 37B, and the credit card number 37C. When the consumer is ready, the software key "Send" 37D or the software key "Cancel" 37E is activated. In the case of a cancel, the screen returns to screen 30A.

In a "send" 37D, mode, the payment processing computer contacts the bank computer and determines if the credit card is valid and if the amount is available. If the charge is authorized, the screen changes to 30C in which the order window 36 has been replaced with authorization window 38 which shows that the charge has been accepted 39A, the transaction no. (A1483) 39B, and the password ("GO") 39C which the consumer is to use with the merchant.

When this information has either been printed or committed to memory, the consumer activates software key 39D to "Proceed" to screen 30D. At this point, the consumer is able to enter the password 29 so that the restricted access is lifted. In the genealogy example, it is at this point the consumer gains access to the full report.

FIG. 4A is a flow-chart of the preferred embodiment's payment processing operation.

After start 40A, a connection is made with the customer computer 41A and the encryption software is downloaded to the customer computer 41B. Encryption software is preferably used for transmittal of the credit card number so that the integrity of the card is not jeopardized.

The consumer computer then communicates, and the payment processing computer accepts, the account number, the amount, and the identification of the product or service, 42A. A connection is made with the credit card server 41C and the account number and amount is transmitted 41D to the credit card server over the established phone lines. In response to this query, the authorization data is received 42B and the connection with the credit card server 41E is broken.

A transaction indicia is generated 41F. This transaction indicia is not the authorization data but serves as an internal monitoring system for the payment processing computer so that the accounting is kept accurate.

From the memory, the password is withdrawn 41G for the product so ordered; and, the password and transaction indicia is transmitted to the customer computer 41H.

At this point, the connection with the customer computer is terminated 41I and the program stops 40B.

FIG. 4B is a flow-chart of an alternative embodiment's payment processing operation.

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After start 43A, the program connects with the customer computer 44A and at the same time obtains the merchant URL 45A. Using the merchant URL, the payment processing computer searches its memory and identifies the merchant number, the part number, and the purchase amount 44B.

The encryption software is downloaded into the customer computer 44C and the credit card account number is received 45. A connection is then made with the credit card server computer 44D and the account number and the amount is transmitted 44E. This inquiry results in an authorization code 45C being received and the connection with the credit card server being broken 44F.

A check is then made to see if the credit card purchase was authorized 46A.

If the credit card purchase was denied, the URL to use for a rejection is withdrawn from memory 44G and the Customer computer is connected to the merchant computer at this URL 44H leaving the payment processing computer able to disconnect 44I and stop 43B.

Should the credit card purchase be accepted, 46A, then the program generates a transaction identification 44J. This transaction identification is stored along with the date, amount of purchase, and the merchant number 44K.

The password is retrieved from memory 44L and it, together with the transaction identification, is transmitted to the customer computer 44M.

From memory, the authorized URL is withdrawn 44N.

A determination, based upon stored data, is made as to the character of the product (service or goods) 46B. If the product relates to goods which are to be shipped, a shipping order including the transaction identification, the amount, the date, and address of the customer, is communicated to the merchant 44O to satisfy the order. If the product is a "service", the program skips to step 44P.

The customer computer is then connected to the authorized URL 44P and the connection with the customer computer is terminated 44Q allowing the program to stop 43C.

FIG. 5 is a flow-chart of the operation of the merchant's computer.

After start 50A, the merchant computer connects with the customer computer 51A and communicates the promotional material 52A. The password is received from the customer 52B and is checked to see if it is the correct password 53A.

If the password is incorrect, a determination is made on if it is the customer's first try 53B, if it is, then the customer is given another chance to enter the correct password 52B. If the customer has tried twice to enter the correct password, the connection with the customer is terminated 51C and the program stops 50C.

If the password is correct, 53A, then the secure or restricted access data is communicated to the customer's computer 51D and the connection with the customer's computer is terminated 51B. The program then stops 50B.

In this manner, secure information is selectively transmitted to a customer's computer upon the presentation of a password.

It is clear from the foregoing that the present invention creates a highly improved system for acceptance and processing of payments over a distributed computer network.

What is claimed is:

1. A system of computers comprising:

a) a computer network;

b) a phone network;

c) a first computer containing promotional data, said first computer having automatic means for communicating said promotional data via said computer network to a remote computer;

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d) a second computer being linked via said computer network with said first computer and receiving said promotional data, said second computer having automatic means responsive to input from an operator, for initiating an order;

d) a third computer; and,

e) a fourth computer, remote from said first computer having automatic means responsive to said order for:

  1) receiving customer account data and amount data from said second computer and said first computer via said computer network,

  2) communicating said customer amount data and said amount data to said third computer via said phone network,

  3) receiving an authorization indicia from said third computer via the phone network, and,

  4) via said computer network, communicating,

    A) a representation of said authorization indicia to said second computer, and,

    B) a representation of said authorization indicia to said first computer.

2. The system of computers according to claim 1, wherein said first computer further including automatic means for generating a shipping order in response to said representation of said authorization indicia.

3. The system of computers according to claim 1,

a) wherein said fourth computer further including automatic means for communicating a password to said second computer; and,

b) wherein said first computer further includes:

  1) memory means containing secured data, and,

  2) automatic means for transmitting the secured data to said second computer in response to the password.

4. The system of computers according to claim 3, wherein said password and said representation of said authorization indicia are communicated to said second computer via said first computer.

5. A system of computers comprising:

a) a first computer containing promotional data, said first computer having automatic means for communicating said promotional data via a computer network to a remote computer; and,

b) a second computer, remote from said first computer, said second computer having automatic means for:

  1) receiving customer account data and amount data via said computer network,

  2) obtaining an authorization indicia via a phone network, and,

  3) via said computer network, communicating a representation of said authorization indicia to a remote computer.

6. The system of computers according to claim 5, wherein said first computer further includes automatic means for generating a shipping order in response to said representation of said authorization indicia.

7. The system of computers according to claim 5,

a) wherein said fourth computer further includes automatic means for communicating a password to said second computer; and,

b) wherein said first computer further includes:

  1) memory means containing secured data, and,

  2) automatic means for transmitting the secured data to said second computer in response to the password.

* * * * *

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(12) **United States Patent** (10) **Patent No.:** **US 6,360,206 B1**
Yamashita (45) **Date of Patent:** **Mar. 19, 2002**

(54) **ELECTRONIC SHOPPING SYSTEM**

(75) Inventor: **Osamu Yamashita**, Tokyo (JP)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(58) Field of Search 705/14, 26, 54; 235/380, 493

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(57) **ABSTRACT**

The present invention realizes on an electronic shopping system a discount service that makes use of a discount coupon. Electronic data that serves as a discount coupon comprises data for identifying a product to be discounted, data for indicating a discount amount, and an electronic signature, and the like. The discount coupon is provided to a customer computer having as the media electronic mail, an Internet site, CD-ROM and so forth. The customer computer sends the discount coupon together with data indicating the purchase product and purchase quantity when ordering a product at a merchant Internet site. The merchant computer provides a discount service to a customer when the electronic signature of the received discount coupon is valid.

19 Claims, 3 Drawing Sheets

140:DISCOUNT COUPON

FIG. 1

<u>100</u>

110

120

E-MAIL RECEIVING SOFTWARE	111
COUPON STORING SOFTWARE	112
PURCHAS-ING SOFTWARE	113

130

E-MAIL SENDING SOFTWARE	121
SELLING SOFTWARE	122
AUTHENTI-CATING SERVER	123

140:DISCOUNT COUPON

FIG.2

<u>200</u>

210

211 — PURCHAS-ING SOFTWARE

112 — COUPON STORING SOFTWARE

240

240 — 140

140

220

221 — E-MAIL SENDING SOFTWARE

122 — SELLING SOFTWARE

123 — AUTHENTI-CATING SERVER

230

231 — E-MAIL RECEIVING SOFTWARE

232 — ADVERTIS-ING SOFTWARE

140:DISCOUNT COUPON

FIG.3

<u>300</u>

110

320

111 E-MAIL RECEIVING SOFTWARE	**121** E-MAIL SENDING SOFTWARE
112 COUPON STORING SOFTWARE	**321** SELLING SOFTWARE
113 PURCHAS-ING SOFTWARE	**322** AUTHENTI-CATING SERVER
	323 MANAGING SOFTWARE

330

340:DISCOUNT COUPON

ELECTRONIC SHOPPING SYSTEM

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to an electronic shopping system, wherein products are bought and sold using a computer and a telecommunications network.

2. Description of Related Art

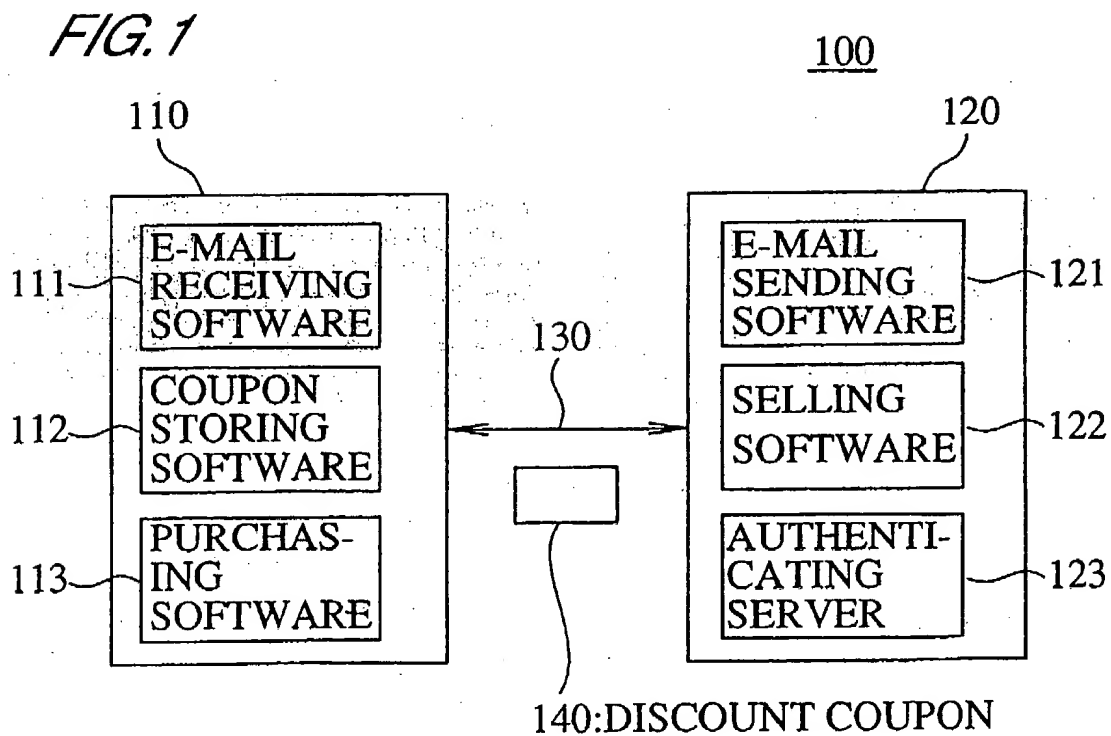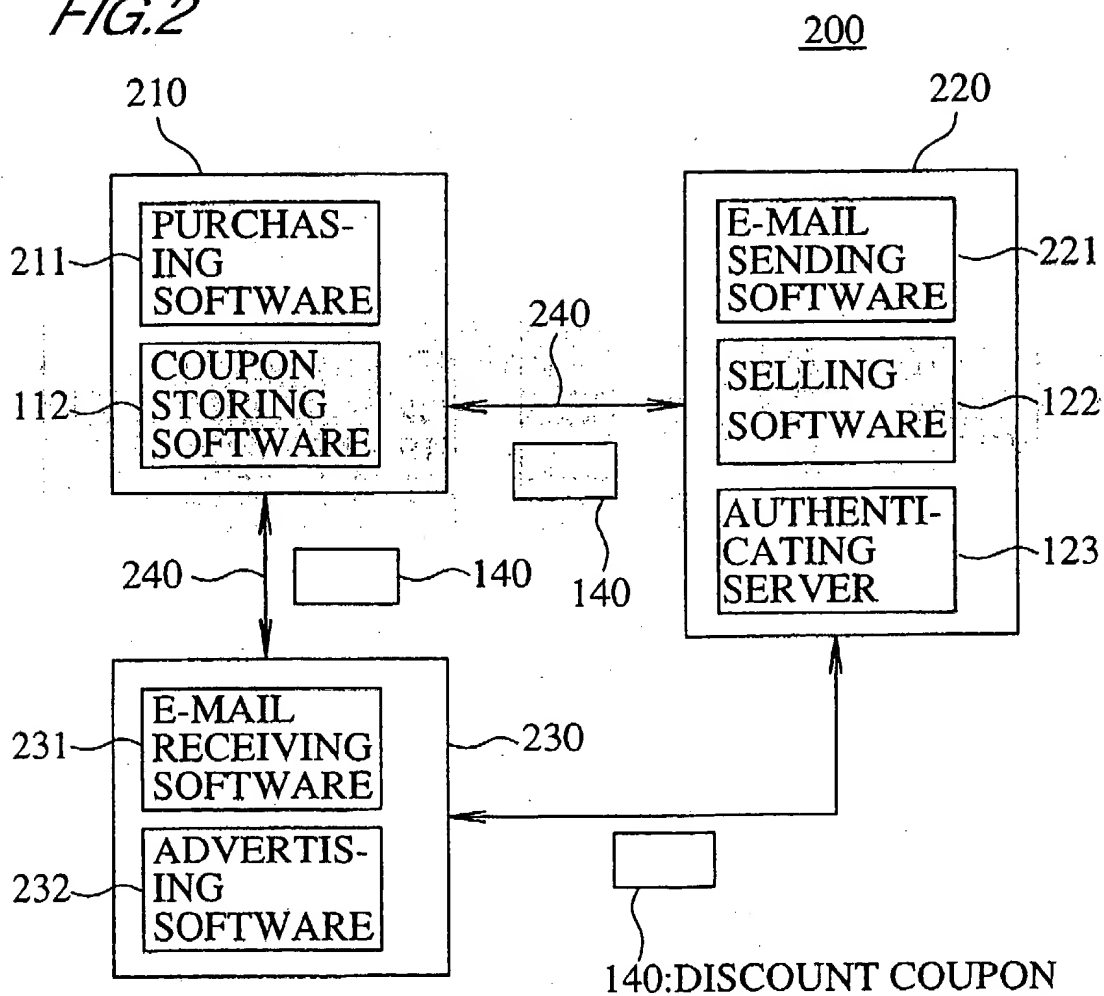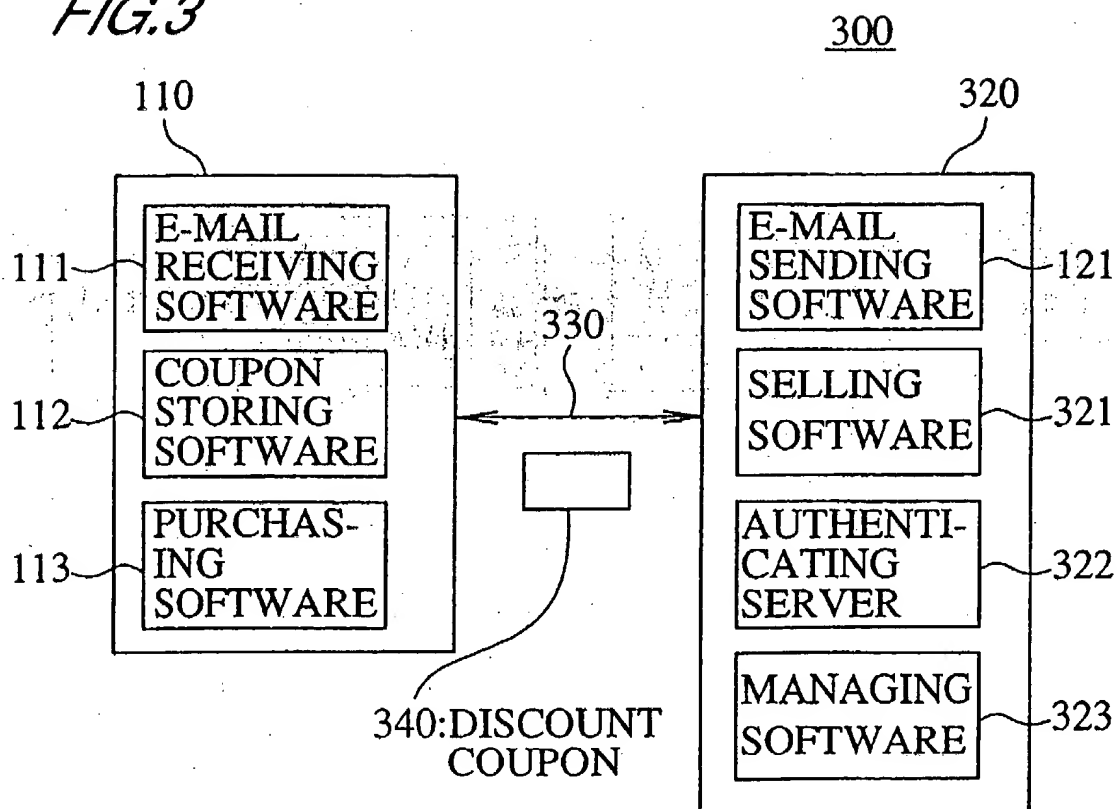An electronic shopping system is known as one aspect of a commercial transaction that does not rely on the physical distribution. An electronic shopping system is a system for buying and selling products using, for example, the Internet or some other telecommunications network and a computer.

With an electronic shopping system, there are cases, in which a discount service is provided, similar to ordinary commercial transactions of stores and the like. Discount service refers to a merchant reducing the selling price of a product in accordance with fixed conditions.

A time service system, volume count system, and point service system, and the like are known as discount services provided by electronic shopping systems. A time service system is a system, wherein a merchant provides a discount service to a customer, who purchases a specified product at a specified time or during a specified time period. A volume count system is a system, wherein a merchant provides a discount service to a customer, who purchases more than a specified quantity of a specified product at the same time. And a point service system is a system, wherein points corresponding to a purchase price or the like are provided to a customer each time he purchases a product, and a discount service of a value that corresponds to the total number of points is provided to the customer.

An electronic shopping system that employs a time service system and a volume count system can readily provide a discount service in accordance with setting in the merchant computer the targeted time or time period, the targeted product, and the purchase quantity which constitute the criteria. However, a system that employs these systems provides a uniform discount service to all customers, and is not capable of providing a different discount service to each customer.

A point service system can provide a different discount service to each customer. However, in an electronic shopping system that employs this system, the merchant's computer system has to manage the points of all the customers. In addition, with an electronic shopping system of this system, even if a merchant would like to provide a service which allows a customer to transfer points to another customer, it is difficult to realize because of the large burden of managing the points of all the customers.

SUMMARY OF THE INVENTION

An object of the present invention is to provide an electronic shopping system, which is capable of easily and flexibly providing a different discount service to each customer.

Consequently, an electronic shopping system related to the present invention comprises a purchasing system, having means for storing in memory discount coupons constituted of electronic data, and means for transmitting to a telecommunications network a discount coupon and data for ordering a product; and a selling system, having means for receiving this discount coupon and this ordering data from a telecommunications network, and means for authenticating the validity of the discount coupon.

The present invention makes possible an easy and flexible discount service in accordance with realizing on an electronic shopping system a discount service that makes use of a discount coupon.

BRIEF DESCRIPTION OF THE DRAWINGS

Other objects and advantages of the present invention are explained below with reference to the accompanying figures.

FIG. 1 is a block diagram showing the constitution of an electronic shopping system related to a first embodiment of the present invention;

FIG. 2 is a block diagram showing the constitution of an electronic shopping system related to a second embodiment of the present invention; and

FIG. 3 is a block diagram showing the constitution of an electronic shopping system related to a third embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

First Embodiment

FIG. 1 is a block diagram showing the constitution of an electronic shopping system related to a first embodiment.

The electronic shopping system 100 of this embodiment comprises a customer computer 110, a merchant computer 120, and the Internet telecommunications network 130.

A customer computer 110 comprises a computer main unit, constituting a CPU (Central Processing Unit), a hard disk, memory, and a telecommunications modem, a display or other outputting device, and an inputting device, such as a keyboard, and a mouse, among others. A merchant computer 120 comprises a computer main unit, an outputting device, and an inputting device, just like computer 110. A customer computer 110 can access a merchant computer 120 via the Internet telecommunications network 130. A merchant computer 120 provides a product catalog, and prices, and other product information in response to a computer 110 request. A customer computer 110 orders a product on the basis of this product information.

A customer computer 110 utilizes electronic mail (E-mail) receiving software 111, discount coupon storing software 112, and product purchasing software 113.

Receiving software 111 is software for receiving as electronic mail data a discount coupon 140 from a computer 120.

Storing software 112 is software for storing on a hard disk or other memory a discount coupon 140 that software 111 received. Computer 110 acquires software 112 by downloading software 112 from computer 120 via the telecommunications network 130, and by installing software 112 from CD-ROM or other memory.

Purchasing software 113 is software for communicating with selling software 122 of a merchant computer 120, and perusing product information and ordering a product. When ordering a product, purchasing software 113 sends to selling software 122 a discount coupon 140 received from storing software 112. An ordinary WWW (World Wide Web) browser, for example, can be used as software 113.

A merchant computer 120 utilizes electronic mail sending software 121, product selling software 122, and a discount coupon authenticating server 123.

Sending software 121 is software for sending as electronic mail data a discount coupon 140 to the receiving software 111 of computer 110.

Selling software 122 is software for managing a product that a merchant sells, for allowing the purchasing software

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113 of computer 110 to peruse product information, and for receiving a product order from software 113. In addition, software 122 receives a discount coupon 140 from purchasing software 113. An ordinary WWW browser, for example, can be used as software 122.

An authenticating server 123 prepares a discount coupon 140. Further, when selling software 122 receives a discount coupon 140, the authenticating server 123 authenticates the validity of the discount coupon 140 in response to a software 122 request.

A discount coupon 140 comprises a classification code for specifying a product that can be used, a discount amount, and an expiration date, and has an electronic signature of a merchant attached.

The operation of the electronic shopping system 100 shown in FIG. 1 is described hereinbelow.

First, the operation of the electronic shopping system, when a customer computer 110 receives a discount coupon 140, is described.

The authenticating server 123 of computer 120 prepares a discount coupon using the classification code, discount amount, expiration date and other data, and electronic signature data stored inside the server. A discount coupon 140 can be prepared by type of product.

The sending software 121 sends a discount coupon 140 to the receiving software 111 of computer 110. For example, a computer 110, which is registered in a merchant computer 120 as a customer, who wants a discount coupon 140 to be sent, and for which the electronic mail address is known, is selected as the addressee of a discount coupon 140.

The receiving software of the computer 110 extracts data related to a discount coupon 140 from received electronic mail, and sends it to the storing software 112.

The storing software 112 stores the discount coupon 140 on hard disk or other memory.

Next, the operation of the electronic shopping system, when a customer computer 110 purchases a product using a discount coupon 140, is described.

The purchasing software 113 of computer 110 accesses computer 120 and peruses the product information of the selling software 122.

When ordering a product, the purchasing software 113 sends to the selling software 122 the data specifying the product to be purchased, and the purchase quantity, as well as the discount coupon 140 to be utilized in this purchase.

Upon receiving the discount coupon 140 from the purchasing software 113, the selling software 122 sends an authentication request to the authenticating server 123.

The authenticating server 123 authenticates the validity of the discount coupon 140, and sends the authentication results to the selling software 122.

When a discount coupon 140 is authenticated as being valid, the selling software 122 calculates an amount by subtracting the discount amount of the discount coupon 140 from the regular selling price of the ordered product. Next, the selling software 122 sends the calculation results to the purchasing software 113 as the actual selling price. Conversely, when a discount coupon 140 is determined to be invalid, the selling software 122 sends to the purchasing software 113 a notice to the effect that the discount coupon 140 is invalid, and the regular selling price of the ordered product.

The purchasing software 113, upon receiving the actual selling price, sends to the selling software 122 a final decision as to whether or not an order will be placed.

With the electronic shopping system 100 related to this embodiment, because it is possible to distribute to a cus-

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tomer system 110 from a merchant computer 120 a discount coupon 140, which has been converted to electronic data, a different discount service can be provided to each customer.

In addition, since it is not necessary to manage a product targeted for a discount service, and a discount value on a customer-by-customer basis, the management burden on a merchant computer 120 is small.

A customer computer 110 can transfer a discount coupon to another customer by either copying or transmitting the discount coupon 140 data. Therefore, even if a merchant provides a service that allows the transfer of a discount coupon 140, the management burden of the merchant computer 120 does not increase.

Further, since the electronic signature of the merchant is attached to a discount coupon 140, the fraudulent use of this discount coupon 140 can be prevent. That is, the electronic shopping system 100 has high security.

Second Embodiment

FIG. 2 is a block diagram showing the constitution of an electronic shopping system related to a second embodiment.

The electronic shopping system 200 of this embodiment has a customer computer 210, a merchant computer 220, an advertising agent computer 230, and the Internet telecommunications network 240.

In this embodiment, a customer computer 210 acquires a discount coupon 140 from an advertising agent computer 230.

The hardware of a customer computer 210 is the same as the hardware of the computer 110 shown in FIG. 1. The hardware of the merchant computer 220 is the same as the hardware of the computer 120 shown in FIG. 1.

An advertising agent computer 230 comprises a computer main unit, outputting device, and inputting device the same as computers 210, 220.

A customer computer 210 uses discount coupon storing software 112, and product purchasing software 211. Computer 210 does not use electronic mail receiving software.

As the discount coupon storing software 112, the same software as in the case of the aspect of the first embodiment is used.

Purchasing software 211 peruses product data, and places a product order by communicating with the selling software 122 installed in a merchant computer 220. When ordering a product, the purchasing software 211 sends to the selling software 122 a discount coupon 140 received from the storing software 112. In addition, the purchasing software 211 peruses a discount coupon 140, and advertising information (not illustrated) published on the Internet in accordance with advertising software 232, and downloads a discount coupon 140 from the advertising software 232. An ordinary WWW (World Wide Web) browser, for example, can be used as software 211.

A merchant computer 220 uses electronic mail sending software 221, product selling software 122, and a discount coupon authenticating server 123.

The sending software 221 sends a discount coupon 140 and advertising information to the receiving software 231 of computer 230.

As the selling software 122, and authenticating server 123, the same software as in the case of the aspect of the first embodiment is used.

An advertising agent computer 230 uses electronic mail receiving software 231, and advertising software 232.

The receiving software 231 is software for receiving as electronic mail data a discount coupon 140, and advertising information from the sending software 221 of a merchant computer 220.

Advertising software 232 is software for publishing the discount coupon 140, and advertising information that the receiving software 231 receives.

The data constitution of a discount coupon 140 is the same as in the case of the aspect of the first embodiment.

The operation of the electronic shopping system 200 shown in FIG. 2 is described hereinbelow.

First, the operation of the electronic shopping system, when a customer computer 210 receives a discount coupon 140, is described.

The authenticating server 123 of computer 220 prepares a discount coupon 140 similar to the case of the first embodiment.

The sending software 221 sends to the receiving software 231 of computer 230 in accordance with electronic mail data, which appends a discount coupon 140 to advertising information.

The receiving software 231 extracts, and sends to the advertising software 232 data related to the discount coupon 140 and advertising information from the received electronic mail. The advertising software 232 publishes the discount coupon 140 and advertising information on the Internet.

The purchasing software 211 of computer 210 peruses via the Internet telecommunications network 240 the advertising information published in accordance with the advertising software 232. In addition, the purchasing software 211 downloads from this advertising software 232 a discount coupon 140 of the type the user desires.

The storing software 112 stores a discount coupon 140 on a hard disk or other memory.

The customer computer 210 can acquire a discount coupon 140 in this manner.

The procedure for purchasing a product using a discount coupon 140 is the same as in the case of the system 100 of the first embodiment, and as such, the description thereof is omitted.

The system 200 of this embodiment can produce the same effects as the effects described with regard to the first embodiment. In addition, since system 200 is capable of publishing a discount coupon 140 in accordance with an advertising agent computer 230, it becomes easy to distribute a discount coupon 140 to the computers 210 of large numbers of unspecified customers.

Third Embodiment

FIG. 3 is a block diagram showing the constitution of an electronic shopping system related to a third embodiment.

The electronic shopping system 300 of this embodiment has a customer computer 110, a merchant computer 320, and the Internet telecommunications network 330.

The hardware of the customer computer 110 is the same as the hardware of the computer 110 shown in FIG. 1. The hardware of the merchant computer 320 is the same as the hardware of the computer 120 shown in FIG. 1.

The customer computer 110 uses electronic mail receiving software 111, discount coupon storing software 112, and product purchasing software 113, the same as computer 110.

The merchant computer 320 uses electronic mail sending software 121, product selling software 321, a discount coupon authenticating server 322, and serial number managing software 323.

As the sending software 121, the same software as in the case of the first embodiment is used.

The selling software 321 is software for managing a product that a merchant sells, for perusing product information in accordance with the purchasing software 113 of computer 110, and for receiving a product order from software 113. When software 321 receives a discount cou-

pon 340 from purchasing software 113, software 321 requests that the authenticating server 322 make a determination as to the validity of the electronic signature, and asks the managing software 323 whether or not it is authorized to use the discount coupon. An ordinary WWW browser, for example, can be used as software 321.

The authenticating server 322 prepares a discount coupon 340, which has a serial number attached. Further, when the selling software 321 receives a discount coupon 340, the authenticating server 322 authenticates the validity of the discount coupon 340 in response to a software 321 request.

Managing software 323 is software for managing, by classification code and serial number, the number of times a discount coupon 340 is capable of being used, and the number of times a discount coupon 340 has been used.

The discount coupon 340 comprises data, such as a classification code for specifying a product that can be used, a discount amount, and an expiration date, as well as a serial number. A merchant electronic signature is attached to the discount coupon 340.

The operation of the electronic shopping system 300 shown in FIG. 3 is described hereinbelow.

First, the operation of the electronic shopping system when a customer computer 110 receives a discount coupon 340, is described.

The authenticating server 322 of computer 320 prepares a discount coupon 340 using the classification code, discount amount, expiration date, serial number and other information, and electronic signature data stored inside the server. A discount coupon 340 can be prepared by type of product. The method for stipulating a serial number is arbitrary. For example, the serial number attached to each individual product can be utilized as-is as a discount coupon 340 serial number.

The sending software 121 sends a discount coupon 340 to the receiving software 111 of computer 110, the same as the first embodiment.

The receiving software 111 extracts, and sends to the storing software 112 data related to the discount coupon 340 from the received electronic mail.

The storing software 112 stores the discount coupon 340 on hard disk or other memory.

Next, the operation of the electronic shopping system, when a customer computer 110 purchases a product using a discount coupon 340, is described.

The purchasing software 113 of computer 110 peruses the product information of the selling software 321, and sends data specifying a product to be purchased, and the discount coupon 340 via electronic mail.

Upon receiving an electronic mail, the selling software 321 sends an authentication request to the authenticating server 322, and sends a determination request to the managing software 323.

The authenticating server 322 authenticates the validity of the discount coupon 340, and sends the authentication results to the selling software 321.

The managing software 323 determines whether or not the number of times the discount coupon 340 was used exceeds the number of times the discount coupon 340 is capable of being used, and sends the determination results to the selling software 321. When it is determined that the discount coupon 340 utilization frequency does not exceed the number of times the discount coupon 340 is capable of being used, the managing software 323 increments by "1" the utilization frequency stored value.

The selling software 321 determines whether or not a discount service is provided based on the authentication

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results and determination results. When a discount service is provided, the selling software 321 calculates a value by subtracting the discount value of the discount coupon 340 from the regular selling price of the ordered product. Next, the selling software 321 sends the calculation results to the purchasing software 113 as the actual selling price. Conversely, when a discount service is not provided, the selling software 321 sends to the purchasing software 113 a notice to the effect that the discount coupon 340 is invalid, and the regular selling price of the ordered product.

The purchasing software 113, upon receiving the actual selling price, sends to the selling software 321 a final decision as to whether or not an order will be placed.

With the electronic shopping system 300 related to this embodiment, it is possible to attach a serial number to all discount coupons 340, and to manage the utilization frequency thereof using a serial number. Therefore, in accordance with this system 300, it is possible to prevent a single discount coupon 340 from being copied and used freely. This system 300 is especially effective, when providing a discount service, such as, for example, a service that provides a higher version of a software product to a specified customer only.

In addition, the electronic shopping system 300 related to this embodiment enables the provision of a different discount service to each customer, the same as the first embodiment, reduces the merchant management burden, and offers outstanding security.

In each of the above-described embodiments, a discount coupon was sent to the computer of a customer by electronic mail. When product information or discount coupon storing software stored on a CD-ROM or other memory is provided to a customer, a discount coupon can also be provided to the customer using this memory. When a discount coupon is provided using a memory, a function for storing on a hard disk or a similar storage the discount coupon data read from memory is attached to the discount coupon storing software.

What is claimed is:

1. An electronic shopping system for ordering a product via a public telecommunications network, comprising:

a purchasing system, having means for storing in memory a discount coupon constituted from electronic data, means for sending to said public telecommunications network electronic data containing said discount coupon and information for ordering said product, means for receiving a final selling price from said public telecommunications network, and means for sending an order to buy said product at said final selling price; and

a selling system having means for receiving said discount coupon and said ordering information from said public telecommunications network, means for authenticating the validity of said discount coupon, means for deciding said final selling price of said product based on the validity of said discount coupon as determined by said authenticating means, means for sending said final selling price to said public telecommunications network, and means for receiving said order for buying said product at said final selling price.

2. The electronic shopping system according to claim 1, wherein said purchasing system has means for perusing product information via said public telecommunications network, and said selling system has means for publishing said product information via said public telecommunications network.

3. The electronic shopping system according to claim 2, wherein said purchasing system sends to said selling system said electronic data containing said discount coupon and said ordering information for said product, using said perusing means.

4. The electronic shopping system according to claim 1, wherein said authenticating means determines the validity of said discount coupon using an electronic signature contained in said discount coupon.

5. The electronic shopping system according to claim 1, wherein said purchasing system has means for receiving said discount coupon from said public telecommunications network, and said selling system has means for sending said discount coupon to said public telecommunications network.

6. The electronic shopping system according to claim 1, wherein said selling system has means for preparing said discount coupon.

7. The electronic shopping system according to claim 1, wherein said discount coupon is sent via electronic mail to said purchasing system from said selling system.

8. The electronic shopping system accord claim 1, further comprising an advertising system for providing said discount coupon to said purchasing system.

9. The electronic shopping system accord to claim 8, wherein said advertising system comprises means for receiving said discount coupon via said public telecommunications network, and said selling system comprises means for sending said discount coupon via said public telecommunications network.

10. The electronic shopping system according to claim 9, wherein said discount coupon is sent from said selling system via electronic mail to said advertising system.

11. The electronic shopping system accord to claim 8, wherein said advertising system has means for publishing product advertising information via said public telecommunications network, and said purchasing system has means for perusing said product advertising information via said public telecommunications network.

12. The electronic shopping system accord to claim 11, wherein said publishing means sends said discount coupon to said purchasing system via said public telecommunications network.

13. The electronic shopping system according to claim 1, wherein said selling system has means for determining the number of times said discount coupon has been utilized through the use of a serial number contained in said discount coupon.

14. The electronic shopping system according to claim 13, wherein said determining means makes a determination to the extent that use of said discount coupon is not authorized when said utilization frequency exceeds a predetermined number.

15. The electronic shopping system accord to claim 1, wherein said storing means stores said discount coupon received via said public telecommunications network in said memory.

16. The electronic shopping system according to claim 1, wherein said storing means stores said discount coupon read out from external memory in said memory.

17. The electronic shopping system accord to claim 1, wherein said discount coupon comprises data for identifying said product to be discounted and data for indicating a discount amount.

18. The electronic shopping system accord claim 17, wherein said selling system comprises means for calculating said final selling price of said product using said discount amount data.

19. The electronic shopping system accord to claim 1, wherein said public telecommunications network is the Internet telecommunications network.

* * * * *

(12) **United States Patent**

Kepecs
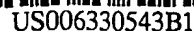
(10) Patent No.: **US 6,330,543 B1**

(45) Date of Patent: *Dec. 11, 2001

(54) **METHOD AND SYSTEM FOR DISTRIBUTING AND RECONCILING ELECTRONIC PROMOTIONS**

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(73) Assignee: Concept Shopping, Inc., Lisle, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: 09/191,591

(22) Filed: Nov. 13, 1998

Related U.S. Application Data

(63) Continuation-in-part of application No. 08/970,526, filed on Nov. 14, 1997, now Pat. No. 6,009,411.

(51) Int. Cl.^{7} G06F 17/60

(52) U.S. Cl. 705/14; 705/26

(58) Field of Search 705/14, 10, 27, 705/39, 26, 1; 235/378, 380, 382

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Primary Examiner—James P. Trammell
Assistant Examiner—John W. Hayes
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(57) **ABSTRACT**

A method and system for distributing and redeeming electronic promotions to a consumer through the Internet or other means is provided. An account which is associated with a unique key is maintained for each consumer account. Access is permitted to the consumer account upon presentation of the unique key over the Internet. The consumer is presented discount or other promotional choices of items available in at least one store associated with the key, or a collection of such stores, over the Internet and the selections of the discount or promotional choices made by the consumer over the Internet or other means are recorded. Upon purchase of items at the associated store by the consumer, such data are received, and the selections and purchases are reconciled to record a credit in the customer account. Unlike paper or electronic coupons, no consumer action other than the selection of promotions desired is required for item purchase.

67 Claims, 2 Drawing Sheets
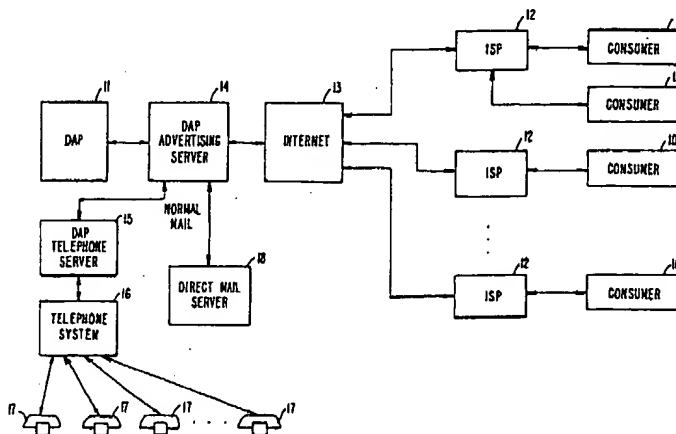
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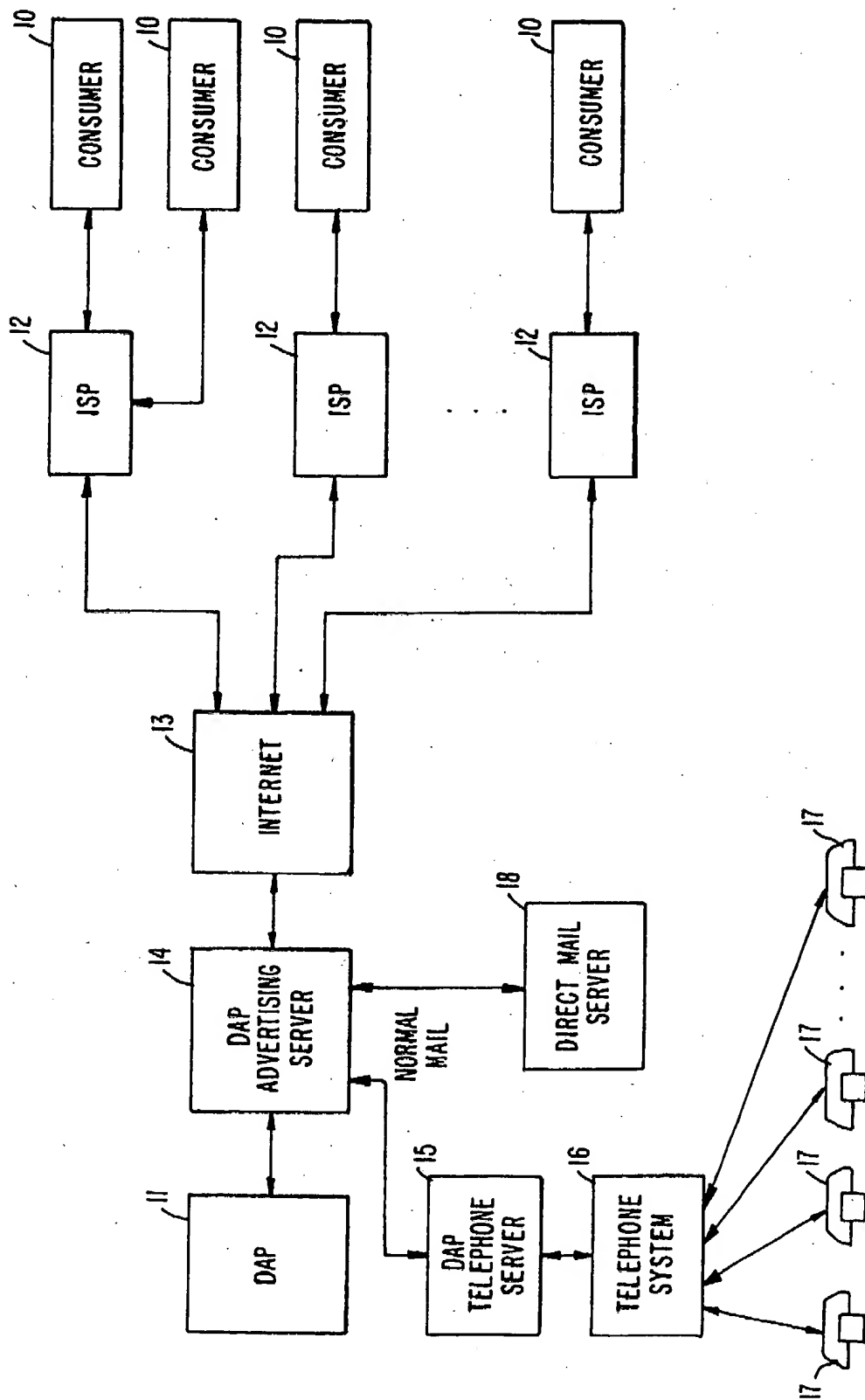
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FIG. 1.

FIG. 2.

FIG. 3.

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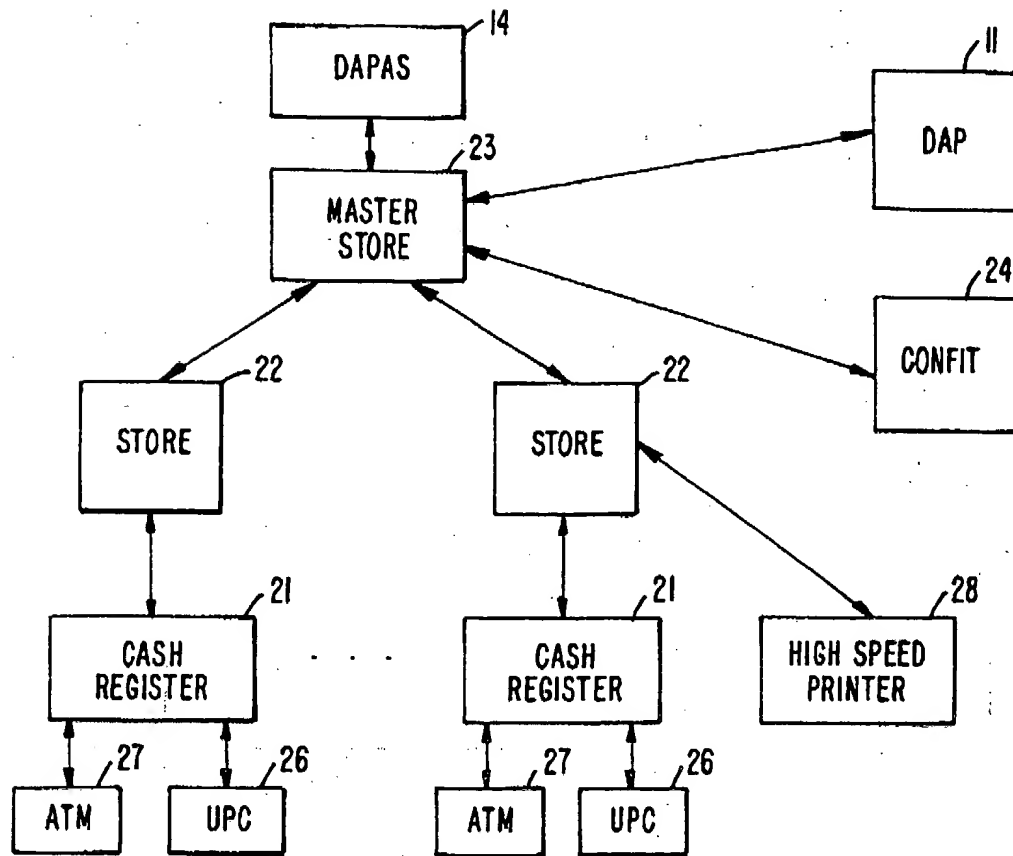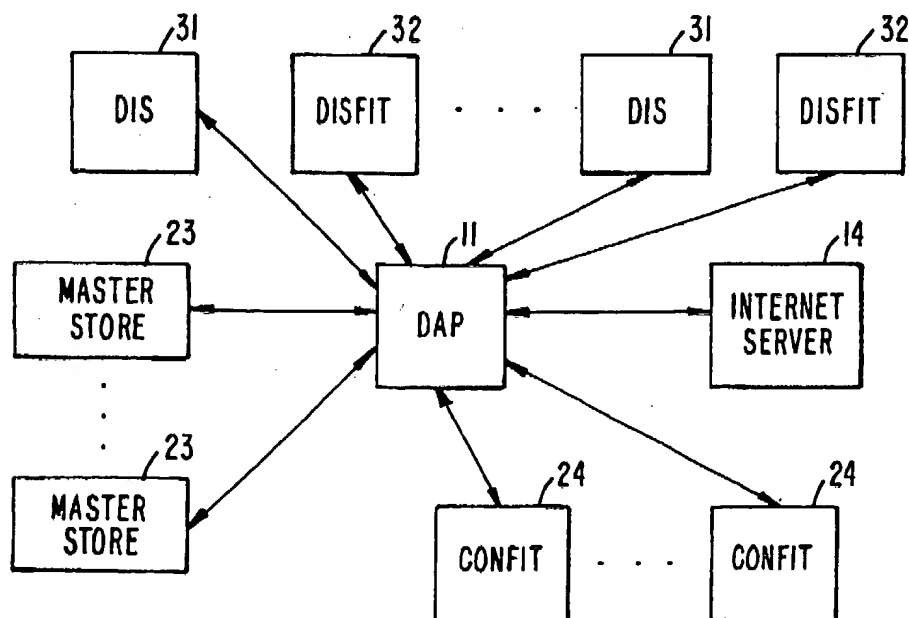
METHOD AND SYSTEM FOR DISTRIBUTING AND RECONCILING ELECTRONIC PROMOTIONS

The present application is a continuation-in-part of U.S. appln. Ser. No. 08/970,526, filed Nov. 14, 1997 now U.S. Pat. No. 6,009,411.

BACKGROUND OF THE INVENTION

The present invention relates generally to discounting and promotion of goods and services to consumers, and, more particularly, to the electronic distribution of promotions, such as discounts, rebates and special prices for goods and services, and the subsequent resolution upon the redemption of the promotions by consumers.

Heretofore, consumer discounts on specific goods or services have been in the form of physical tokens or coupons by which a consumer can obtain a discount on the price of a good or a service by redeeming the coupon. Typically, paper coupons are physically distributed to consumers. For instance, coupons are often distributed with newspapers, or by blanket mailing to residents of a neighborhood or region. Coupons are sometimes distributed with items so that purchasers are encouraged to continue their purchases of the item, i.e., to encourage brand loyalty.

More recent forms of coupon distribution have attempted to better target the potential purchasers of particular items. For example, coupons are placed on the back of store purchase receipts, such as those at supermarkets, so that the coupons target those who actively shop. The coupons can be changed at the stores to quickly respond to changes in marketing campaigns. Another form of coupon distribution takes advantage of the computerization of sales networks. When a sale of a particular item is entered on a Universal Product Code (UPC) reader at a store, such as a supermarket, a coupon For the same item or family of items may be created for the purchaser to ensure brand loyalty. Alternatively, the coupon may be for a competing band to encourage "brand-switching." Because the UPC reader is typically part of a large computer network, the distribution of the coupons can be changed or terminated very quickly.

Nonetheless, the problems of paper coupons still remain. Besides the distribution of coupons, the expense of the administration for the redemption of the coupons is high. Fraud remains a problem in coupon redemption and the targeting of consumers for particular goods and services can still be improved. Even electronic coupon distribution requires complex actions on the part of the consumer, such as printing a coupon or token, and taking it to a store for redemption. In the ideal case, electronic discounts should only require that a consumer who can be uniquely identified by a retailer be optionally subjected to some form of advertising prior to a discounted purchase. The discount should be implemented completely automatically at the cash register.

Furthermore, from the producer's and retailer's standpoint, the targeting of consumers remains difficult and expensive. Ideally, a database of all consumers would allow the precise targeting of advertisements, discounts or special prices being a form of advertisement, to individual consumers. The effectiveness of customer targeting would be maximized so that promotion money is spent where it is effective and not spent when it is ineffective. To that end, producers and retailers have used emerging technologies to identify consumers and their purchasing interests. Surveys using modern polling techniques have helped create such con-

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sumer databases, and computers have been used to correlate buying patterns of customers through store loyalty cards, for example.

However, such consumer identification remains elusive and expensive. Moreover, and perhaps more importantly, such goals of consumer identification are repugnant to notions of individual privacy. With the increased linking of computers by electronic networks, such concerns are likely to increase. Besides the individual resistance to divulging personal information, legal restraints on the use and gathering of personal information are possible, if not likely.

The present invention provides for a system and method which addresses these privacy concerns in a flexible way, while providing for the possibility of effective consumer targeting and automated discounting. The most appropriate discounts or other promotions are directed toward the individual consumer, yet the anonymity of the consumer is preserved. The present invention eliminates the paper coupon or its electronic counterpart, and is highly resistant to fraud. No paper coupons are handled by the consumer, the merchant, the manufacturer of the goods, or provider of the service.

Once the consumer is identified (with varying degrees of privacy protection) in accordance with the present invention, conventional forms of advertising may be directed precisely toward the consumer. The present invention allows the consumer's buying patterns to enable the targeting of the consumer with special discounts or prices on the goods or services he or she might buy. This targeting of promotions will also generally take into consideration factors beyond the simple interest of the consumer, such as the product cost and the consumer's sensitivity to discounted prices, which enable the producer and retailer to eliminate wasteful promotional spending.

In addition to facilitating the targeting of consumers individually by their purchasing habits, the present invention also permits the consumer to view their total buying history. This is not a feature currently available at the level of retail sales. While credit card companies today track purchases at the store level, purchases at the level of individual items are not tracked. The ability of a consumer to track his or her total consumption history is a unique feature of the current invention.

The present invention also permits the aggregation of several kinds of discounts. For example, a retailer loyalty program may offer a discount on an item, and a manufacturer may offer a discount on the same or a different item. The present invention permits a unified display and reconciliation of both discounts; in the former case by adding two discounts on the same item, and in the latter case, by displaying both discounts to the same consumer account.

SUMMARY OF THE INVENTION

To reach these seemingly contradictory goals, the present invention provides for a method and system for advertising electronic promotions to a consumer through a variety of means including a communications network, such as the Internet, and tying this advertising to the actual implementation of a special price or promotion at the point of sale. An aspect of the present invention is to allow a variety of advertising options to be used by the discounter and to make the promotions provided by the discounter available to the consumer in a secure, anonymous fashion at the point of sale, while retaining control over the degree of advertising required before making a promotion available.

An account is maintained for each consumer and a unique identifying key (ID) is associated with each consumer

account. This account may be established by a registration process, such as is used in so-called "loyalty card" programs many retailers currently have in place. Access is permitted to the consumer account upon presentation of the unique ID over the communications network, or passively by using other advertising means, such as electronic mail to an e-mail address associated with the unique ID. The consumer is presented discount or special price choices of items available in at least one store associated with the unique ID, or a collection of such stores, via the advertising vehicle. Any selections of the choices made by the consumer over a communications network used to deliver the advertising are recorded when possible and are required to enable the associated promotions.

In one aspect of the present invention, the consumer can simply view the special prices or discounts available to him by providing his unique ID, and the simple fact that the consumer may have viewed these prices or discounts is recorded. Alternatively, no advertising may be required, or the advertising is otherwise specifically targeted to the consumer by other means, such as e-mail or individualized fliers sent anonymously to an address supplied by the holder of the unique ID, or by calling a so-called 800 number which allows the automatic binding of the caller's phone number to his unique ID. It is also possible to inform the consumer of future special discounts or prices directly on the cash register tape at the point of sale. For each consumer, the system records whether or not the consumer was exposed to any advertising about the price or discount, and the degree of exposure (for example, the consumer may have been asked to view extensive advertising and even to answer questions to qualify for a promotion.)

Upon purchase of items at the associated store by the consumer who makes his unique ID available, the details of the customer's purchase are recorded for analysis as to what future pricing or promotions should be offered to the consumer. Furthermore, the selections and purchases are reconciled to record a credit in the consumer's account, or the consumer simply pays the special prices uniquely advertised to him because the point-of-sale equipment has been informed of these prices when or prior to when the consumer's unique ID is input.

In one embodiment of the present invention, no direct consumer identification is maintained in the consumer account to preserve the anonymity of the consumer. For example, only the loyalty card identifier need be managed according to the present invention; the identity of the consumer is not needed. The purchasing history of each consumer at the stores where the promotions are redeemed for items (which need not be limited to the item(s) being promoted) is maintained in a database, and the consumer may access this history (in one embodiment of the invention.) This per-consumer history is called the micro-history. The microhistory can then be used not only to help the consumer in personal finance management efforts, but also to help the consumer identify trends in his buying habits, which may benefit from modification or reinforcement.

Thus, according to one embodiment of the present invention, a system can operate in the following manner: The consumer presents a unique identifier at the store's point of sale (POS). The consumer's purchases are recorded for subsequent analysis, and associated with the unique identifier in a secure fashion. Based on a variety of inputs, including, but not limited to, a consumer's response to advertising, microhistory, retailer cost data, retailer and manufacturer profitability requirements and input from

manufacturers as to what promotions may be available, promotions that are unique to the consumer are calculated. Potentially beneficial promotions may also be presented to the manufacturer and retailer with the hopes of including these promotions in a subsequent promotion calculation. The calculated promotions are advertised (optionally) to the consumer, and prices that are not individualized (shelf prices) may also be calculated and sent to a shelf-pricing mechanism. The value of the promotions is realized at the point of sale, for example by directly charging the consumer his unique prices on items.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of an advertising link between consumers and the Discount Administration Process (DAP), according to the present invention;

FIG. 2 is a block diagram of a representative point-of-sale computer network system, as found in a typical modern retail operation, and its connection to the DAP; and

FIG. 3 is a block diagram of a computer network connection between the discounters and the DAP, according to the present invention.

DETAILED DESCRIPTION OF THE SPECIFIC EMBODIMENTS

The channels of distribution of, and payment for, goods in a modern society are complex. Broadly stated, there is the producer that manufactures the goods, the retailer that sells the goods, and the consumer who purchases the goods. There is often a financial institution which supplies credit, for example, through a credit card, or which administers some other non-cash payment system, for example, through a debit card or a so-called smart card, for the consumer to purchase the goods. To compete in the marketplace, the producer and the retailer of goods employ advertising, including discounts, e.g., coupons, to encourage consumers to purchase their goods.

Increasingly, retail stores, especially chains of retail stores, are offering loyalty cards which reward shoppers for frequenting the store(s) covered by the loyalty card. Stores generally request additional customer information (such as name and mailing address) and assign the customer a unique (to the store or chain) number for identification purposes. When the loyalty card is used, advertised promotions are given to the consumer in the form of discounts or points, which may be redeemed directly at the point of sale as a credit against a purchase.

In such complex circumstances, the present invention takes advantage of another development in modern society, that of the Internet, and in particular, the Worldwide Web. With the development of the personal computer, the emergence of the so-called network computer, and computer/TV devices designed specifically to operate over the Internet, such as WebTV or NetPC units, more and more people are using the Internet to receive and transmit information. The present invention may use the Internet by which the consumer receives advertising and discount information, and possibly selects the desired promoted products. In certain cases, the consumer also receives information on the credits obtained by his or her purchase of discounted items. Conversely, the producer and retailer obtain useful consumer information to precisely and cost-effectively target their advertising and promotional offers.

This is all achieved without requiring the particular identities of consumers to be revealed. Privacy is thus preserved

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to a large extent and the amount of personal information released by the consumer is under his control. For example, if the consumer wishes to remain totally anonymous and uses only the Internet to receive advertising, his unique ID is sufficient. If the consumer wishes to access a so-called 800-number and provide only his unique ID, totally anonymous advertising can also be targeted at this consumer. If the consumer wishes to share just his phone number when he obtains his unique ID, the 800-number can even automatically associate the number the consumer calls from to his unique ID. Totally anonymous advertising can also be targeted at the consumer by printing out present or future advertising on the cash register tape issued upon that consumer's purchase of an item or service. If the consumer wishes to provide an e-mail address, telephone number or mailing address, other forms of advertising are possible, although with less anonymity for the consumer.

In general terms and in accordance with the present invention, consumers communicate with or are communicated to via an Advertising Server of a Discount Administrator Process (DAP) over the Internet or other advertising link. Each consumer identifies him or herself to or is identified by the Discount Administrator Process Advertising Server (DAPAS) by a unique KEY, which provides an identification of the consumer to the DAPAS, and at the same time, a barrier for the consumer from the DAP. The DAPAS makes the consumer aware (if required) of discounted and promotional items, which have been made available by discounting entities (the discounters), which offer the discounts, possibly as individual special prices, to the consumer. A discounter may be one, or more direct producers, such as cereal makers; repackagers, such as stores offering products manufactured by producers under the stores' names; or stores which offer many discounted products which the stores resell. The discounts are indicated by amount or net price, locations where the discounted items may be purchased, any special restrictions (such as a limit on the number of items that may be purchased at the special price or requirements to purchase other items to qualify for the discount price) and time of expiration of the discounts. If an appropriate advertising form is used, the consumer makes his or her selections electronically, and the selections are recorded by the DAPAS if required, or the simple fact that the consumer was exposed to advertising may be recorded.

To obtain the discounts, the consumer visits an associated location, e.g., a store, and purchases the discounted items. To identify himself or herself to the store, the consumer uses the unique Key. The store sends a record of the purchases with the consumer's identifying Key to the DAP, i.e., the Discount Administrator Process. The DAP reconciles the consumer's selections with the purchases at the store and maintains the microhistory of the consumer's purchases (this history may be kept independently by the store, in which case, it may be desirable for the DAP to access the store's customer history database, sometimes called a Tlog, instead of maintaining a separate database.) The consumer may receive the discount (or his individualized prices) at the time of purchase, or receive a credit in a designated financial account, e.g., the consumer's credit card account. The DAPAS may inform the DAP when the consumer has been properly exposed to promotional advertising which in turn enables the promotion. Alternatively, the DAP may wish to offer the promotion concurrently with the advertising, or even with no advertising.

It should be noted that there is an exchange of benefits between the consumer and the discounter. In return for

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information containing the consumer's purchasing interests, the discounter gives the consumer a discount or some other promotional benefit. Hence it is often important that the consumer make a pre-selection of discounted items. However, it may be desirable to provide individualized pricing automatically to a consumer without any advertising—for example, to keep a favorite item at a certain price indefinitely so that there are no pricing surprises, or alternatively, to pleasantly surprise the consumer with an unexpectedly low price on an item.

Once the consumer has a KEY for identification, the present invention can also allow the consumer purchases to be, in effect, the selection of the discounts. That is, the tracking of the consumer's purchases allows the accumulation of information on the consumer's purchasing interests for which the discounts are given. The buying pattern of the consumer can affect the discounts available to the consumer with varying degrees of consumer participation.

Additionally, while this specification mentions the advertising, distribution, discounting and sale of goods, it should be understood that the present invention is equally applicable to discounted services as well.

The Electronic System Organization

The present invention operates over an organization of computers linked over networks. It should be understood that while a single computer might be described, the computer might be one or more computers which are tightly coupled (e.g., connected over a backplane), one or more programs on the same computer communicating via standard interprocess communication techniques, or more loosely coupled (e.g., connected by a network). Further, it should be understood that various functions of each computer might be distributed in other computers to reduce hardware requirements. For example, some or all software that provides the DAP 11 functionality might be run partially on the master store computer 23 and partially on store computer 22.

FIG. 1 illustrates the advertising link according to the present invention, the general interconnection of consumers to the Discount Administration Process Advertising Server (DAPAS) 14 by which the consumers receive advertising and discount information and make their selection of the "electronic discounts". The consumers can use their computers 10 for connection to the DAPAS 14 through the Internet or other advertising links as described below. The consumer computers 10 may be standard personal computers, the emerging so-called network computers, computer/TV devices designed specifically to operate over the Internet, such as WebTV or NetPC devices, or other data entry systems which permit two-way communication over the Internet (generally via email or a web browser.) The consumer computers 10 access the Internet through a computer server 12 of an Internet service provider (ISP). The ISP server 12 is connected to the Internet, a network of computers, represented by an Internet computer 13. The DAP computer 11 is responsible for computing the individual promotions offered to consumers via the DAPAS 14 and carrying out the effect of the promotions at the point of sale via the master store computer 23.

The DAP 11 employs a variety of inputs, strategies and constraints to arrive at targeted individualized discounts. These include, but are not limited to, the customer's purchase microhistory, retailer's cost basis and profit requirements, available manufacturer promotions, prospective manufacturer promotions, demographic information,

how a consumer was advertised to, whether or not he responded to an advertisement, well-known marketing strategies such as giving greater discounts where consumers exhibit more price awareness, statistical analysis of how consumers have behaved in the past and might be expected to behave in the future, possible interactions with other loyalty or promotion or credit-card incentive programs the consumer may participate in, and feedback on how well a given set of promotions worked to achieve specific goals.

In one aspect of the present invention, which was described previously, the consumers can communicate with the DAPAS 14 by ordinary telephone 17 through the telephone system 16. The DAPAS 14 uses a DAP telephone server 15 as an interface to the telephone system 16. The DAPAS 14 may also interface with a direct-mail process 18 that informs consumers of available promotions by ordinary mail if the consumer provided an address to associate with their unique ID.

The DAPAS 14 may also inform consumers of available promotions via the master store computer 23 by simply printing all available promotions associated with a given loyalty card via a high-speed printer 28 generally located in the front of the store, or by displaying current or future promotions on a consumer's cash register receipt produced by cash register 21 The DAPAS 14 may also potentially communicate shelf prices to the master store computer 21.

The DAP computer 11 may also communicate with systems at manufacturers or other discounters 31 to obtain additional information on available promotions and to offer the manufacturer the opportunity to take advantage of promotional opportunities developed by the DAP. The DAP 11 may further act to automatically infuse and monitor promotion dollars provided electronically via the discounter's financial system 32 into the retailer's pricing or discount system controlled by master store computer 23. For example, the discounter may wish to spend not more than x dollars on a specific promotion, but may be willing to spend x+y dollars if the promotion is performing well as determined by computations made by DAP 11 or by a human monitoring the results of the promotions. In this manner, the DAP 11 can act as a financial controller for many aspects of a promotion. This interconnection is described further in the discussion on FIG. 3.

Besides connection to the DAPAS 14, the DAP computer 11 is also connected to the computers of the seller of the discounted goods. FIG. 2 is illustrative of the general organization of the point-of-sale operation, i.e., a large store chain, for goods (and services). The store, e.g., a supermarket, typically operates with electronic cash registers 21, essentially computers which record each item sold, calculate the sales totals, prints the receipt, and so forth. Each cash register 21 is often connected to a Universal Product Code (UPC) scanner 26 and/or an Automated Teller Machine (ATM) reader 27. The UPC scanner 26 identifies bar codes on the products to the cash register 21. The ATM reader 27 reads the magnetically encoded account number of a credit/debit/smart card that has been issued by some financial institution, such as a bank, or a store-issued loyalty card, belonging to a consumer. In the case of a smart card, a specific device may be employed to generate a credit on the smart card as a way of providing a discount. Some cards may also encode their identification number as a bar code which is read by the UPC scanner. The ATM reader 27 also typically accepts typed-in, or otherwise entered, private information, such as a personal information number (PIN), to securely identify the card holder. The store loyalty cards, which are typically used to uniquely and anonymously

identify their customers, are generally read by the UPC scanner 26 or possibly a magnetic code reader such as the ATM reader 27.

In some larger stores, the cash registers 21 (and possibly high-speed printers 28) are connected to a store computer 22, which maintains the centralized inventory, pricing and discount information of the store. In turn, the store computer 22 is connected via a network to a master store computer 23. The master store computer feeds pricing information to many store computers 22 and acts as a clearinghouse for a variety of distribution, inventory and other information used in store operations. Of course, there can be multiple levels for store computers 22 depending upon the size of the retail operation. Naturally, nationwide store chains are likely to have many more computers and computer interconnections.

Outside of the retail network, the master store computer 23 is connected to the computers 24 of financial institutions (FIT). The FIT computers 24 verify and process the financial transactions involving credit, debit and smart cards, including those at the store register 21. Besides the connections to the FIT computers 24, the master store computer 23 is connected to the DAP computer 11. This connection permits the DAP computer 11 to reconcile the selections made by the consumer with the purchases at the store and maintain customer purchase microhistory (or access this history via a database (Tlog) maintained by the master store computer 23.) Further, the DAPAS 14 (under control of the DAP 11) can access the master store computer 23 for handling store advertising functions, such as setting shelf prices, accessing the high-speed printer 28 or the receipt printer of the cash register 21.

It should be noted that the computer network which interconnects the cash registers 21, UPC readers 22, ATMs 23, store and master store computers 22 and 23, and the FIT computers 24 belong a private network, i.e., not the Internet.

Such networks are typically in the form of WANs (Wide Area Networks) of varying degrees of complexity. The DAP computer 11 is connected to this network to make the interconnections described above.

FIG. 3 illustrates the general network interconnection of the DAP computer 11 with the computer 31 of a discounter (DIS), such as a manufacturer or a retailer, and a computer 32 of the discounter's financial institution (DISFIT). The connection to the DIS computer 31 allows the DAP computer 11 to receive discount information and propose new discount plans, detailed previously, from the discounter. The DAP computer 11 may communicate with the DISFIT computer 32 so that the discounter's account is debited for goods purchased by the consumers under the discounter's discount. The DAP computer 11 may also be connected to the computer 24 of the consumer's financial institution (CONFIT). This connection allows credit obtained by the purchase of discounted goods to be placed into the consumer's account at the consumer's financial institution in an embodiment of the present invention wherein the discount is not taken at a store register 21.

As in the case of the store WAN above, the computer network for the discounter and its financial institution(s) is another private network, typically a WAN. The DAP computer 11 is connected to this network and other private networks belonging to the financial institutions of the consumers.

Operations of the System
The Discount Administration Process Computer

The DAP computer 11 maintains a Key Database of the consumers' accounts. As explained above, a unique Key

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identifies the account of each consumer, but not necessarily the actual identity of the consumer. Each consumer may select his own Key, as long as the Key does not conflict with other Keys, or the Key may simply be assigned to a consumer.

Keys may be distributed by financial institutions, such as credit/debit/smart card companies, or by a third party, such as the operator of the DAP. A Key might also issued as a part of a retailer's loyalty card program. The stores accepting a particular Key are associated with the Key. For example, when the consumer specifies a unique identification (ID) bound to a particular loyalty program, retailer or chain, the stores associated with the Key are clearly defined. Of course, only certain identified stores within a chain may offer a particular promotion.

There can be different levels of identification in the Key Database. One level is the secure registration level. At this level, the Key Database, which is stored on the DAP computer 11, contains a consumer's KEY and one or more credit/debit/smart card account numbers (FIDs) issued by a financial or retail institution to the consumer. There is a database for each set of KEY's obtained by a separate registration process. Thus, if two different store chains with separate loyalty programs are in the database, the same consumer may be represented by two different KEY's, and the identity of the chain is implicit in which database is accessed. The Key Database appears as:

$$<KEY_0, FID_0, FID_1, \ldots FID_K>$$
$$<KEY_1, FID_0, FID_1, \ldots FID_K>$$
$$<KEY_2, FID_0, FID_1, \ldots FID_K>$$
$$<KEY_2, FID_0, FID_1, \ldots FID_K>$$

$$\ldots$$

$$<KEY_m, FID_0, FID_1, \ldots FID_K>$$

The Key Database may contain alternatively or concurrently some other personal identification, such as a Social Security number, a driver license number, passport number, or even biometric information, such as a fingerprint, of the consumer.

A lower level of identification is protected registration. The Key Database contains the KEY and a lower level of identification of each consumer. An example is simply the KEY and the address of the consumer. It should be noted that it is sufficient in this method to simply identify the household belonging to a Key, for example, by mailing a Key-containing card to the occupant of a given address. In this way, while a consumer remains anonymous, the consumer will have significant difficulty in obtaining a second, unrelated account. Should an attempt be made by requesting another Key at the same address, the first Key can be invalidated. Should an attempt be made by requesting another Key at a different address, the existence of a Key already assigned to that different address can generate a request for the requester to either indicate a change of address (resulting in a different Key being subsequently issued to the previous address), or an invalidation of the original Key. This binding of Key to address thus allows the consumer to remain anonymous when accessing their account over the Internet, and allows the discounting computational system to maintain a consistent history of buying habits for a household, without compromising the individual's privacy. Note that the address might also be an e-mail address.

Finally, the lowest level of identification is simply the KEY with no other identification data. The consumer is completely anonymous. This method may be used by the DAP computer 11 even if the KEY has non-anonymous

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bindings elsewhere (for example, if the KEY is associated with a store's loyalty card). Thus, the consumer can still be anonymous to the DAP, even if the store is aware of the consumer's identity or just his address.

These different levels of identification imply different mechanisms and timing for reconciling the discounts of goods purchased by the consumer. These mechanisms are discussed below. An important aspect of the invention is that disjoint sets of KEYs may refer to the same consumer, yet still be reconciled to belong to one consumer. For example, a consumer may belong to two different loyalty cards, each with their own KEY. The DAP 11 may thus have:

    <KEY1, store loyalty ID1>
    <KEY2, store loyalty ID2>

    . . .

One way to associate KEY1 and KEY2 to the same consumer is simply to allow the consumer to specify both Keys. This can allow the program running on the consumer's computer 10 to automatically correlate both accounts to present the consumer with a total summary of purchasing history, even though the DAPAS 14 is unaware of the correlation. It is also possible for the consumer to provide KEY1 and KEY2 (and KEY3, KEY4, etc.) to the DAPAS 14 so that the DAPAS 14 can make the association. This same technique can be used to correlate addresses if less secure Key binding is used.

Duplication of discounts is sometimes a problem. Within a single Key space (e.g., one bound to a single loyalty or credit card), duplication can be eliminated by simply refusing to issue more than one, or only a set number of, promotion(s) for a given item within a given time period. The same can be done across multiple correlated Key spaces. If Key spaces are un-correlated, then duplication cannot be categorically disallowed. However, because Key spaces are typically shared by non-conflicting retailers, and because the consumer can gain increasing benefits by repeatedly using the same Key space, duplication of promotions across un-correlated Key spaces is not a severe problem.

For the consumer's convenience, the DAP's agency may issue an identification card to each consumer with a magnetic or bar code for his Key. The card allows the consumer to quickly identify his Key and account at a store with a UPC scanner 26 or ATM reader 27. The card might also show the Key so that the consumer can type in his Key. Alternatively, for additional security, the consumer's identification card may carry an encrypted or hidden identification code (such as a PIN) before the consumer's Key is validated after being read at a store, for example. Alternatively, the DAP may simply rely on Keys already obtained by the store or credit card agency.

The Key Database is also accessed by the DAPAS 14. Whenever the consumer uses his or her computer 10 to access the DAPAS 14, he must specify his KEY. This enables the consumer to access information unique to himself, namely his microhistory and the individual promotions currently available to him. The DAPAS 14 presents the discounts available to the consumer over his computer 10. In addition to a menu search of available discounted products, a "stream of consciousness" search is also available. For a example, a consumer's interests may be queried. The DAPAS 14 then suggests that the consumer investigate products of a certain type.

Note that there is no particular security placed on a non-secure Key itself. The knowledge of such a Key does not compromise the security of the system, since the consumer's identity is unavailable for harassment (for example, by telemarketing firms) and selection of discounts by others

using the Key confers no benefit on the person other than the true keyholder.

Selection of Discounts by the Consumer

Through his or her computer 10, the consumer may browse through the discounts or other promotions available to him or her at the DAP Advertising Server 14—this is generally the presentation of the Reconciled Discount list described below. A Web site provides access to a GUI on the consumer's computer 10 to easily access his or her account on the DAP computer 11. The Web site may be hosted on the DAPAS 14, or DAPAS 14 may interact with a remote Web host which in turn interacts with the consumer. If the consumer's Key is created through a particular company's loyalty card program, the consumer may be directed to a Web site operated by that company, which in turn interacts with DAPAS 14.

The consumer selects the desired discounts, e.g., the special prices on the displayed items. If required, the consumer also selects at which stores he will make the purchases. Additional information about the products, such as marketing information, may be displayed. For instance, from the consumer's microhistory the DAP computer 11 can make a correspondence with the consumer's Key and one or more stores where the consumer is likely to make his or her purchases and present promotions at those stores to the consumer. The selected discounts and their total value are displayed to the consumer and a per-account list of selected discounts, any restrictions on these discounts, when each discount was selected, and the expiration date of the discount, along with the discount value, is sent by the DAPAS 14 to the DAP computer 11.

To prevent tampering of the consumer's selections, the DAP computer 11 also has an optional security lock feature. Once the security lock is set, it is difficult, or impossible, for a malefactor to deprive a consumer of his selected discounts by subsequently deleting or changing them. This lock may be set by the consumer after his selections are made. The lock may also be set by the DAP if a pattern of misuse is detected, by the receipt of consumer complaints, for example.

As discussed previously, the Internet is only one of many ways by which a consumer may become aware of the discounts and special prices available to him. The Internet is perhaps the richest medium for this purpose and is employed here as the most general example of different advertising vehicles. Advertising vehicles may be classified according to their cost, the degree to which it may be verified that a consumer viewed an advertisement, the amount of consumer interaction required to deliver the advertisement, the time it takes to deliver an advertisement, and so on. It is not always necessary to advertise a promotion in order to deliver it. The present invention applies to all of the discussed forms of advertising.

Customer Purchase of Discounted Items at Store

To realize his discounts, the consumer identifies his Key during the purchase of items at a store. Each store maintains a record of the consumers' transactions, such as:

<KEY, <UPC$_0$, PRICE$_0$, QUANTITY$_0$>, <UPC$_1$, PRICE$_1$, QUANTITY$_1$>, . . . <UPC$_K$, PRICE$_K$, QUANTITY$_K$>, <DISCOUNT$_{13}$ TYPE$_0$, VALUE$_0$>, <DISCOUNT_TYPE$_1$, VALUE$_1$>, . . . <DISCOUNT_TYPE$_K$, VALUE$_K$>>

This transaction record is part of a customer transaction log or "Tlog". The example above is a simplification—for example, not all items in a store have a UPC but may be indexed by a different code.

The Tlog is stored in the store master computer 23, and may be accessed by the DAP 11, or the DAP may maintain

its own version of the Tlog data. Each customer's microhistory is generally derived from the Tlog data, but may be computed directly from data received from the cash register 21 and UPC reader 26.

The consumer may provide his Key with a card containing the Key in the form of magnetically-encoded data or bar code data, which is simply scanned in. The Key may be in a separate card, or in a credit/debit/smart card which also includes the Key data. A retailer's loyalty card can include the Key data, which might simply be the store's loyalty card ID. The Key can also be provided by the consumer by simply entering the Key at an ATM reader 27 (using a template, such as those on push-button telephones) or letting the store clerk enter the Key at the register 21. More exotic forms include biometric identification.

Alternatively, the consumer need not specify his Key. With a list of financial institutions which are tied to the DAP consumer accounts, the store can automatically determine the consumer's Key. For example, upon the reading of his credit/debit/smart card, say, a VISA (a registered trademark of VISA International, Inc.) credit card, the store's register 21 automatically ties the transaction to the consumer's Key. Such accounts may be "read-only," or, more precisely, "deposit-only," financial institution accounts, which are credited with accepted promotions. The credits in these accounts are subsequently transferred into the consumer's liquid accounts upon validation of the identity of the card-holder.

Note that the Key may be securely associated with a customer's financial institution account (through the Key Database) without the DAP or the store knowing the financial institution account. Theft of a Key is not serious because someone in possession of the Key can only select discounts or other promotions which accrue to the actual Key holder. No significantly bad results can occur since the discounted products must still be legitimately purchased.

Regardless of how the KEY is presented by the consumer, the store's Tlog records all of the activity associated with each KEY. The set of discounts associated with each KEY is computed by the DAP 11, passed to master store computer 23, and thence to store computer 22, generally in advance of the customer's visit. The KEY is passed from register 21 to the store computer 22, along with the current consumer's transactions (purchases, paper coupons used, etc.) that form the part of the consumer's Tlog attributable to the current set of purchases. In return, the store computer 22, passes back the discounts or actual prices to charge the consumer, or, if the discounts are to be credited to a consumer's financial account, initiates the process of arranging this credit, described below in more detail. The store register 21 may also be directed to print information about the discounts, such as the list price and the customer's special price, total amount saved, potential future discounts available, and so on, on the customer's receipt.

Implementing Transactional Discounts

Some discounts may be limited as to the number allowed to a customer, whether or not they may be used in conjunction with other discounts including paper coupons, tied to a single use based on having spent a certain amount within a given time limit, and so on. Such discounts are termed Transactional Discounts. The store computer 22 must be provided with rules on how to fully reconcile each discount where possible, but some kinds of discount require that the store computer 22 interact with other computers to enforce the discounting rules.

When the calculation at the store computer 22 takes place to enforce transactional discounts, there is a flow of data

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from the store register 21 to the DAP computer 11 to describe the items actually purchased, and a reverse flow from the DAP computer 11 to the store register 21 (generally via the master store computer 23 and the store computer 22) which controls the discounts available to a given account. The latter flow is needed to ensure that discounts which have been used cannot be reused unless reuse of discounts is specifically allowed—the current validity of a transactional discount must be checked.

The flow of data to the store computer 22 from the DAP computer 11 typically occurs after the consumer selects applicable discounts from the DAPAS 14 and before the consumer arrives at the store. The DAP computer 11 may infer, based on likely location of the store where the discounts will be applied, or most likely applied, (either the store is expressly noted by the consumer, or the consumer's purchasing history may indicate likely store selection), the time interval the DAP computer 11 has before the master store computer 23 or store computer 22 must be informed to ensure that the consumer's discounts are available, etc. Similarly, there may be a time delay before the DAP computer 11 is informed of the actual purchases so that it may in turn be consulted by other stores to ensure that transactional discounts are properly controlled (since it may be reasonably assumed that some time is required for the consumer to go to a different store and attempt to re-use an accepted discount, and the store computer 22 and/or master computer 23 could track attempts by the consumer to re-use an accepted discount at the same store).

Alternatively, the DAP computer 11 or master computer 23 may be informed immediately upon consumer purchase, so that it may arbitrate the reuse policy on each discount to ensure that un-authorized duplicate discounts are not granted, even if the customer travels quickly from one store to another with the hope of obtaining the same discount several times. If the DAP computer 11 is always consulted for each consumer transaction, there is no requirement to pre-load store computers with promotion rules to implement at the register.

In any of the data flow scenarios where the DAP computer 11 and the store computer 22 or master store computer 23 do not interact immediately and information is saved for a period of time before the account is reconciled, we refer to this stored information as cached data. Caching data can reduce latency (so that the consumer need not wait for a remote transaction between the store and DAP computers take place), but introduces complexity since cached data can become invalid in many ways. For example, if several stores receive cached data about a given account, once the customer using the account makes a purchase, there is only a limited amount of acceptable delay before the cached data must be invalidated. This can be accomplished by having a computer act upon an invalidating event (the DAP computer 11 if, say, a discount is canceled or added; the store computer 22 when discounts are accepted) and informing its peer(s). Alternatively, the computer acting upon an invalidating event may first query its peer(s) to see if any other invalidating events have happened. If not, the transaction can be completed and the peer computer(s) put on notice that subsequent transactions should not be processed immediately. Otherwise, the transaction must wait until the invalidating event has been completely processed and any necessary cached data are reloaded.

Preparation of Discounts

As described earlier, the DAP 11 employs a variety of inputs to compute proposed pricing or discounts. These include, but are not limited to, the customer's purchase

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microhistory (or customer's Tlog data), retailer's cost basis and profit requirements, available manufacturer promotions, prospective manufacturer promotions, demographic information, how a consumer was advertised to, whether or not he responded to an advertisement, well-known marketing strategies, such as greater discounts where consumers exhibit more price awareness, statistical analysis of how consumers have behaved in the past and might be expected to behave in the future, possible interactions with other loyalty or promotion or credit-card incentive programs the consumer may participate in, and feedback on how well a given set of promotions worked to achieve specific goals.

To describe how the DAP 11 should compute the discounts, a formula language which computes actions based on predicates involving assertions about the state of a customer's Tlog and other states such as product information, may be used. Formulas control all of the system feedback as well, as consumer purchasing behavior based on promotional activity is measured and modifies the action of subsequent promotional activities of the system automatically. Without a flexible programming language interface, formulas must be hardwired into the system, making it difficult or impossible to insert new formulas into the system. The language that defines the formulas allows new formulas to be easily defined, and permits formulas that control the behavior of other formulas to be easily defined and modified, even while the system is running. Further, this language may be compiled from commands derived by employing a graphical user interface (GUI) that simplifies how formulas are described. Note that new formulas can easily be created and old or unsuccessful formulas can be removed, either manually or automatically. This GUI may also allow formula designers to test out the possible implications of a discounting action by simulating or predicting its result. Some of these potential results may be based on speculation as to how a discounter could achieve specific sales or marketing goals by infusing money into the system. These results are communicated to the discounter (who may also use the system himself to investigate potential marketing campaigns), and the discounter may elect to initiate the proposed targeted discounting campaign. By presenting a high-level interface to the formula programming language, the GUI makes it much easier for designers to implement and test new formulas, and to communicate the results of formula actions to designers, retailers, and manufacturers. The GUI may also be used to define how the system generates reports on its activity—for example, on how the results of a given set of formulas affected retailer profitability in a particular time period.

A Discount List database is created for a list of discounts due to each customer. Reconciliation with the consumer discount selections at the DAPAS 14 is also made to obtain the correct discounts due. In making the reconciliation between purchases and consumer selections, some discounters may not care if the purchase was made before the consumer's selection, instead of selection first. The reconciled data appears as records in the Reconciled Discount List database:

<KEY, STORE, DISCOUNT0, ITEMID0, DISCOUNT1, ITEMID1, . . . >

From the Reconciled Discount List database, the total discount due for each Key is computed and a list of discounts payable by the discounter is determined. The Reconciled Discount List is eventually communicated to the store computer 22 as described previously, in order that the store register 21 may implement the discounts that must be given at the point of sale.

Reconciliation of Consumer Accounts

Full reconciliation of a consumer account for the purposes of issuing a credit to a financial institution may require a number of steps to ensure full audit control. In the case where the discount or net price is taken at the register, the discounts are pre-authorized and the only major audit control needed is to ensure that the discounter has input the required amount of funds into the system, since the customer receives his discount at the register 21.

To reconcile each consumer account, the Reconciled Discount List database is validated as required against the purchase proofs (time, products, KEY, store ID) recorded at the store in the Tlog or in a microhistory maintained by the DAP 11, the Key database, a financial institution or read-only financial institution account number, the identity and quantity of the discounted items purchased, other applied discounts, and the time of purchase, for each consumer account.

From the discount information supplied by each discounter and stored on the DAP computer 11, and Reconciled Discount List database, a final list of discounts created by resolving conflicting discounts. For example, if a paper or electronic coupon had also been presented by the consumer for a discount, this discount may be disallowed. In the case of discounts taken at the register, resolution is generally carried out by the store computer 22 (subject to any transactional discount requirements as discussed previously) so the computer 22 must be generally be supplied in advance with rules for handling this reconciliation by the DAP 11 via the master store computer 23. In this case, the Reconciled Discount List database must be converted into rules that can be executed at the store computer 22.

When the discount is taken in the form of a credit to a consumer's financial instrument, the DAP computer 11 debits the discounter's financial account computer 32 and credits the consumer's financial institution account. Otherwise, the discount amount is simply deducted from the consumer's bill at the point of sale, or, if the consumer is provided with special pricing on a set of items, this special pricing is realized at the point of sale. It should be noted that a special price is distinct from a discount since the actual price of the item is guaranteed. If mapping information is not kept by the DAP 11 and the consumer's financial institution has the necessary information to make the mapping between the Key and a financial institution account, the necessary information is sent directly to the financial institution computer 24. All of these transactions are performed electronically where possible.

A full history of all data is retained for auditing purposes. Final auditing steps, such as the validation of store inventory to cover the store claims for credit of the sale of discounted items and certification by an external accounting agency, complete these steps of the operations.

The Reconciled Discount List database is also accessed by the DAP Advertising Server 14 so that each consumer, using his or her KEY, can browse his discount file, with as much security as the consumer desires (only the unique, anonymous ID is absolutely needed). This information also facilitates the consumer's selections since the database provides an indication of the consumer's interests by the previous purchases. For additional convenience and usefulness to the consumer, the consumer's information is available in industry standard format. This allows the consumer to use third party software, such as personal finance management of which Quicken, (a registered trademark of Intuit, Inc. of Mountain View, Calif.) is merely an example, to maximize the use of the consumer's information, for his or her benefit.

The purchasing history can be used to infer consumer marketing information without the intrusion of additional personal information disclosure or the burden of consumer surveys. The aggregation of the purchasing histories of the consumers can be used to find trends or patterns in consumer purchases as broadly or narrowly as desired. Nonetheless, despite this use of consumer information, the privacy of the particular consumer is protected as described above.

General Applications for the DAP Advertising Server

While the present description of the DAP Advertising Server (DAPAS) 14 envisions access via a Web browser, the DAPAS 14 should be viewed as a generalized advertising processor which need not involve the Internet. The DAPAS 14 is responsible for making the consumer aware of the promotions available to him, and typically (but optionally, depending upon the specific promotion), providing feedback to the DAP computer 11 as to what promotions were or were likely observed or selected by the consumer. The DAP computer 11 may or may not require this information to make its calculations.

The DAPAS 14 may make optimizations. For example, a consumer who starts using the Internet need not be sent expensive direct mail, and this information about the consumer can also be supplied to the DAP computer 11 to assist in its cost consideration methods. As described previously, the consumer may be informed of promotions by the Internet, email, 800-number, printed information on the cash register receipt, direct mail, or other targeted forms of advertising. The DAPAS 14 directs the advertising, the degree the consumer is involved—from no involvement, to passive involvement where the consumer may have been exposed to the promotion, to active involvement, where the consumer is known to have been exposed to the promotion (for example, by clicking the mouse on a given promotion.) The DAP computer 11 uses this information to decide what promotion to give. In some cases, a special price may be given regardless of whether or not a consumer was exposed to advertising about it; in other cases, the price may not be available until the consumer has been targeted by advertising. In either case, the DAP computer 11 controls aspects about the particular promotion, such as the length of the promotion, how many times the same item can be bought at the special price by the same consumer, and so on.

Security Features

It should further be observed that the present invention has many security features and options:

a. If the consumer's Key is associated with a financial institution account, Key secrecy is unnecessary since security depends only on the security of the financial institution account.

b. Stores cannot cheat (other than to falsely increase processing charges) by issuing false proofs of purchase to a Key issued by a financial institution since the benefit goes only to the true holder of the financial institution account.

c. If, instead of the DAP, a financial institution issues the Key to the consumer, only the Key is required to be shared with the DAP. Neither the store nor the DAP needs access to the consumer's financial institution account associated with the Key.

d. If a financial institution creates a special deposit-only account, which access is shared with the DAP and/or the store, only the financial institution may transfer money from

this account to a main consumer account upon a discount validation by the DAP.

e. By limiting or prohibiting modifications to discounts selected by the consumer, a computer "hacker" with knowledge of the consumer's Key cannot frustrate the consumer by tampering with consumer selections.

f. By limiting the number of selected products, the time period during which the selected discounts remain valid, or by using simple challenges, consumers cannot abuse the system by simply selecting all discounts, or even having discounts selected by an agent program automatically, to avoid the conscious selection of discounts. If such were possible, consumers could obtain the benefits of discounts without returning to the discounters the benefit of their advertising, which benefit is usually desireable.

While the foregoing is a complete description of the embodiments of the invention, it should be evident that various modifications, alternatives and equivalents may be made and used. Accordingly, the above description should not be taken as limiting the scope of the invention which is defined by the metes and bounds of the appended claims.

What is claimed is:

1. A method for distributing and redeeming electronic promotions to a plurality of consumers through at least one communications network, comprising:

maintaining an account for each consumer;

associating each consumer account with a unique key;

permitting access by said consumer to said consumer account upon presentation of said unique key over said at least one communications network, said access including said consumer's purchasing history of promotions through said consumer account;

presenting promotion choices of items available at at least one store associated with said unique key over a selected communications network, including said at least one communications network to said consumer;

receiving data of purchased items by said consumer at said associated store; and

reconciling said selections and purchases to credit said consumer.

2. The method of claim 1 wherein said reconciling step comprises recording a credit in said consumer account.

3. The method of claim 2 wherein said consumer account comprises a financial institution account.

4. The method of claim 3 wherein said financial institution account comprises a "deposit-only" account.

5. The method of claim 2 wherein said consumer account comprises a store loyalty program account.

6. The method of claim 2 wherein said consumer account comprises a discount account established by a third party.

7. The method of claim 1 wherein said reconciling step comprises directly crediting consumer at said associated store.

8. The method of claim 7 wherein said consumer account comprises a store loyalty program account.

9. The method of claim 7 wherein said consumer account comprises a discount account established by a third party.

10. The method of claim 1 wherein said reconciling step comprises directly implementing an individualized price on certain selected and purchased items.

11. The method of claim 1 wherein said presenting promotion choices step comprises presenting specific discounts on specific items.

12. The method of claim 1 wherein said presenting promotion choices step comprises presenting a purchase incentive for one or more items available in said associated store, said purchase incentive unrelated to said one or more items.

13. The method of claim 1 wherein said presenting promotion choices step comprises presenting specific prices on specific items.

14. The method of claim 1 wherein said presenting promotion choices step comprises presenting said promotion choices by telephone.

15. The method of claim 1 wherein said presenting promotion choices step comprises presenting said promotion choices by printer at said store.

16. The method of claim 1 wherein said presenting promotion choices step comprises presenting said promotion choices by electronic mail.

17. The method of claim 1 wherein said presenting promotion choices step comprises presenting said promotion choices by direct mail.

18. The method of claim 1 wherein said presenting promotion choices step comprises presenting said promotion choices by a cash register printer at said store.

19. The method of claim 1 wherein said presenting promotion choices step comprises calculating shelf prices for all consumers at said store.

20. The method of claim 1 further comprising the step of recording selections of said promotion choices made by said consumer over said communications network.

21. The method of claim 20 further comprising the step of sending data of said recorded selections to one or more of said associated stores within a preselected time limit after said recording selection step so that said data is sent prior to purchase of items by said consumer at said associated store.

22. The method of claim 21 further comprising the step of indicating discounts credited to said consumer account at the time of purchase of items by said consumer at said associated store.

23. The method of claim 22 further comprising the step of invalidating said sent data of said recorded selections to one or more of said associated stores within a preselected time limit after said time of purchase of items by said consumer at said associated store.

24. The method of claim 21 further comprising the step of inferring a likely associated store where purchase will occur by said consumer.

25. The method of claim 24 wherein said inferring step comprises inferring said likely associated store from the data of previously purchased items by said consumer.

26. The method of claim 24 wherein said inferring step comprises inferring said likely associated store from said unique key.

27. The method of claim 21 wherein said one or more associated stores are preselected by said consumer.

28. The method of claim 1 further comprising the step of sending data of said recorded selections to said associated store upon purchase of items by said consumer at said associated store so that discounts credited to said consumer account are indicated at the time of purchase of items by said consumer at said associated store.

29. The method of claim 1 wherein said receiving data of purchased items step occurs upon purchase of items by said consumer at said associated store.

30. The method of claim 1 wherein said receiving data of purchased items step occurs within a preselected time limit after purchase of items by said consumer at said associated store.

31. The method of claim 1 further comprising the step of presenting data of previously purchased items by said consumer over said communications network to said consumer.

32. The method of claim 31 wherein said data presenting step further comprises formatting said data to industry standards.

33. The method of claim 1 wherein said consumer account maintaining step has a limited direct identification of said consumer with said account.

34. The method of claim 33 wherein said consumer account maintaining step excludes identification of said consumer by name.

35. The method of claim 34 said consumer account maintaining step comprises:

maintaining a database of only said key, at least one financial institution account number, and purchasing history for each consumer.

36. The method of claim 35 wherein said financial institution account number comprises a credit card number.

37. The method of claim 35 wherein said financial institution account number comprises a debit card number.

38. The method of claim 35 wherein said financial institution account number comprises a smart card number.

39. The method of claim 33 wherein said consumer account maintaining step includes a name of each customer.

40. The method of claim 37 wherein said reconciling step further comprises:

communicating said credit to a financial institution account through said financial institution account number so that said financial institution account may be credited.

41. The method of claim 40 wherein said financial institution account is maintained in a smart card.

42. The method of claim 1 wherein said access permitting step is over the Internet.

43. The method of claim 42 wherein said access permitting step further comprises accessing said consumer account through a Web site upon presentation of said unique key by the consumer.

44. The method of claim 43 wherein said Web site is associated with said store.

45. The method of claim 1 further comprising the step of offering promotions to said consumer derived from received data of consumer purchases.

46. The method of claim 45 wherein said promotion offering step comprises targeting large aggregates of consumers.

47. The method of claim 45 wherein said promotion offering step comprises targeting individual consumers.

48. The method of claim 47 wherein said targeting step comprises inferring said individual consumers from purchasing and promotion selection data of said consumers.

49. The method of claim 48 wherein promotions offered to a targeted individual consumer include promotions for products and services based upon purchasing and promotion selection data of said consumer, said promotions for products and services unrelated to items actually purchased by said consumer.

50. A system for distributing and redeeming electronic promotions to a plurality of consumers comprising:

a first communications network interconnected to a plurality of first computers interfacing with said plurality of consumers;

at least one second computer connected to said first communications network, said second computer maintaining an account for each consumer, said account including a database, each consumer account accessible upon presentation of a unique key over said first communications network, said accessed account show-

ing promotion choices of items available at at least one store associated with said key; and

a second communications network distinct from said first communications network, said second communications network interconnecting said second computer and at least one computer at said associated store so that said second computer and said store computer can exchange recorded selection data of promotion choices and purchase data of items at said associated store over said second communications network to reconcile said selections and purchases to credit said consumer.

51. The system of claim 50 wherein said second computer records data of selections of said promotion choices made by said consumer over said first communications network.

52. The system of claim 51 wherein said second computer reconciles said selections and purchases to record a credit in said consumer account.

53. The system of claim 51 wherein said store computer reconciles said selections and purchases to directly reduce a total price of selected and purchased items.

54. The system of claim 50 wherein said second computer maintains only limited direct identification of each consumer in said account database.

55. The system of claim 54 wherein said consumer account database excludes identification of said consumer by name.

56. The system of claim 55 wherein a record of said consumer account database has only said key, at least one financial institution account number, and purchasing history for each consumer.

57. The system of claim 56 wherein said financial institution account number comprises a credit card number.

58. The system of claim 56 wherein said financial institution account number comprises a debit card number.

59. The system of claim 56 wherein said financial institution account number comprises a smart card number.

60. The system of claim 56 wherein said consumer account database includes a name for each customer.

61. The system of claim 51 further comprising a third network connecting said second computer and a computer at a financial institution, said second computer communicating a credit to said financial institution computer so that an account of a consumer at said financial institution is credited to reconcile selections and purchases made by said consumer.

62. The system of claim 50 wherein said first network comprises the Internet.

63. The system of claim 62 wherein said first network further comprises a Web site presenting a consumer account accessible only upon presentation of said unique key by said consumer.

64. The system of claim 63 wherein said Web site is associated with said store.

65. The system of claim 63 wherein said Web site operates on a server, said server interacting with said second computer to access said consumer account.

66. The system of claim 50 wherein said accessed account presents data of previously purchased items by said consumer.

67. The system of claim 66 wherein said data of previously purchased items are formatted to industry standards.

* * * * *

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(12) United States Patent
Scroggie et al.

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(45) Date of Patent: ***Feb. 6, 2001**

(54) **SYSTEM AND METHOD FOR PROVIDING SHOPPING AIDS AND INCENTIVES TO CUSTOMERS THROUGH A COMPUTER NETWORK**

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(*) Notice: Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.

This patent is subject to a terminal disclaimer.

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Related U.S. Application Data

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(51) Int. Cl.[7] G06F 17/60

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(58) Field of Search 705/14, 1, 10; 705/26, 27; 709/238

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(57) **ABSTRACT**

A system and method for delivering purchasing incentives and a variety of other retail shopping aids through a computer network, such as by E-mail over the Internet or the World Wide Web. Customers (10) of retail stores can establish a bi-directional communication link with the system, log in (16) to the system, and then elect to browse among available purchasing incentive offers (18, 22), or elect to explore other shopping aids, such as a shopping list generator (26), a recipe center (30), or simply elect to claim a product rebate or to receive product information. If the customer elects to have product information or rebate information delivered, only minimal customer identification is required. For purchase incentives redeemable at retail stores, the customer must provide identification information and must also designate a retailer (12) at which the purchasing incentive can be exercised. For receipt of focused incentives based the customer's past shopping behavior, the customer must also supply a unique customer id., such as a check cashing card number or credit card number, used for in-store purchases. For delivery of a product sample, the customer's name and address must be supplied. The system merges this customer-supplied information (270) with other purchase incentive data (272) and creates a printable graphical image of the purchasing incentive (282) for transmission to the customer. In an alternate embodiment of the invention, the purchase incentive is not transmitted directly to the customer. Instead, the terms of the incentive are transmitted electronically to the retail store (310) designated by the customer, who receives either a token (316) to present at the store or an advisory message. In yet another embodiment of the invention, incentives may be targeted to specific consumers based on a consumer purchase history (502), and transmitted to consumers' computers (510) using electronic mail addresses stored in a consumer database (506).

10 Claims, 15 Drawing Sheets

FIG. 1

80 → REQUEST FOR LOG-IN PAGE → GO TO HELP

84

SEND E-MAIL TO SYSTEM ADMINISTRATOR

86

COMPLETE FORM AND PRESS SUBMIT KEY

82

VALID ENTRY?

90

NO

YES

RESTRICTION PROCESS (OPTIONAL)

94

START THE PROCESS

96

PROCEED TO THE MAIN MENU

98

FIG. 2

REGISTRATION
PASSES ZIP
CODE OF
CONSUMER — 100

VALID ZIP
CODE? — 102

NO → SEND "BAD ZIP
CODE"
MESSAGE ON
REG. PAGE — 104

YES

VALID IP
ADDRESS? — 106

NO → SEND "BAD IP
ADDRESS"
MESSAGE ON
REG. PAGE — 108

YES

NOT SURE

PERFORM
TRACE ROUTE
ON IP ADDRESS — 112

VALID IP
ADDRESS? — 114

YES → UPDATE
VALID IP
ADDRESS
TABLE — 116

NO → SEND E-MAIL
TO
ADMINISTRATOR:
"PLEASE
REVIEW" — 118

RETURN TO
LOG-IN
PROCESS — 110

FIG. 3

```
                    ┌─────────────────────┐
                    │   ENTER MAIN        │
                    │ MENU/OFFER INDEX    │──── 120
                    │   FROM LOGIN        │
                    │ (BEGIN SESSION)     │
                    └──────────┬──────────┘
                               │
                               ▼
                    ┌─────────────────────┐
                    │   MAIN              │
                    │ MENU/INDEX         │──── 122
                    │ HTML PAGE          │
                    └──────────┬──────────┘
                               │
   138          134            │            124
┌──────────┐ ┌──────────────┐  │  ┌──────────────┐
│ PROCEED  │ │ SELECT OFFER │  │  │   SELECT     │
│ TO OFFER │◄│  FROM OFFER  │◄─┼─►│   RECIPE     │
│ BROWSER  │ │    INDEX     │  │  │   CENTER     │
└──────────┘ └──────────────┘  │  └──────────────┘

      132                      │         138
   ┌──────────────┐            │  ┌──────────────┐
   │   SELECT     │            │  │ SELECT FINAL │
   │ SHOPPING LIST│◄───────────┼─►│    LIST      │
   │    MAKER     │            │  │              │
   └──────────────┘            │  └──────────────┘

      130                      │         126
   ┌──────────────┐            │  ┌──────────────┐
   │ SELECT E-MAIL│            │  │   SELECT     │
   │ TO SYSTEM    │◄───────────┼─►│ SUPERMARKET  │
   │ ADMINISTRATOR│            │  │  SPECIALS    │
   └──────────────┘            │  └──────────────┘

                               │         128
                               │  ┌──────────────┐
                               │  │              │
                               └─►│ SELECT HELP  │
                                  │              │
                                  └──────────────┘
```

FIG. 4

FIG. 5

ENTER
SUPERMARKET
SPECIAL
DIRECTORY
PAGE — 184

VIEW RECIPE
CENTER
(TOOLBAR) — 192

CHOOSE A
SUPERMARKET
PAGE — 185

VIEW
SHOPPING LIST
MAKER
(TOOLBAR) — 194

SELECT ITEMS — 186

PROCEED TO
MAIN MENU
(TOOLBAR) — 196

ADD ITEM TO
SESSION
RECORD — 188

PROCEED TO
FINAL LIST
(TOOLBAR) — 198

RETURN TO
MAIN MENU — 190

PROCEED TO
OFFER INDEX — 199

FIG. 6

FIG. 7

ENTER THE
CREATE
SHOPPING LIST
MAIN MENU   220

SELECT
DEPARTMENT   222

SELECT
ITEMS FROM
DEPARTMENT   224

ADD
CHOICES TO
SESSION
RECORD   226

RETURN TO
MAIN MENU   228

FIG. 8

REQUEST FOR
REGISTRATION
PAGE — 80

GO TO
HELP
84

SEND E-MAIL
TO SYSTEM
ADMINISTRATOR
86

COMPLETE
FORM AND
PRESS SUBMIT
KEY
82

90 — VALID
ENTRY?

NO

POST
REJECTION
MESSAGE ON
REG. HTML
92

YES

RESTRICTION
PROCESS
(OPTIONAL) — 94

230
NEW
USER?

NO

FIG. 9

YES

232
CREATE
UNIQUE
HOUSEHOLD
ID

RECORD
CONSUMER
INFORMATION — 234

PROCEED
TO FINAL
LIST — 236

250

ENTER THE FINAL
SHOPPING LIST
FROM
REGISTRATION

252

254

ACCESS
AND LOAD
SESSION
RECORD

BUILD LIST FROM
POINTER TO:
-COUPONS
-SHOPPING LIST
-RECIPE INGREDIENTS
-IN-STORE COUPON
TIE-INS
-FOCUSED INCENTIVES

256

DISPLAY LIST
TO CONSUMER

258

GO TO MAIN
MENU

260

FINISH/EXIT
(LINK TO
OTHER
SAVINGS)

262

DISPLAY
"THANK YOU"
AND END
SESSION

FIG. 10

FIG. 11

MANUFACTUERER'S COUPON   EXP. MM/DD/YY —B

CUSTOMER'S NAME —A

PRODUCT ICON

SAVE When You Buy X Amount
$0.00 —E   *of a certain type* —F

Retailer: We will pay you for face value plus 8 cents provided you and consumer have complied with offer. Void where prohibited , taxes, or restricted by law. Cash value 1/100 of a cent. Consumer pays any applicable sales tax. Invoices proving product purchase to cover coupons must be available. Li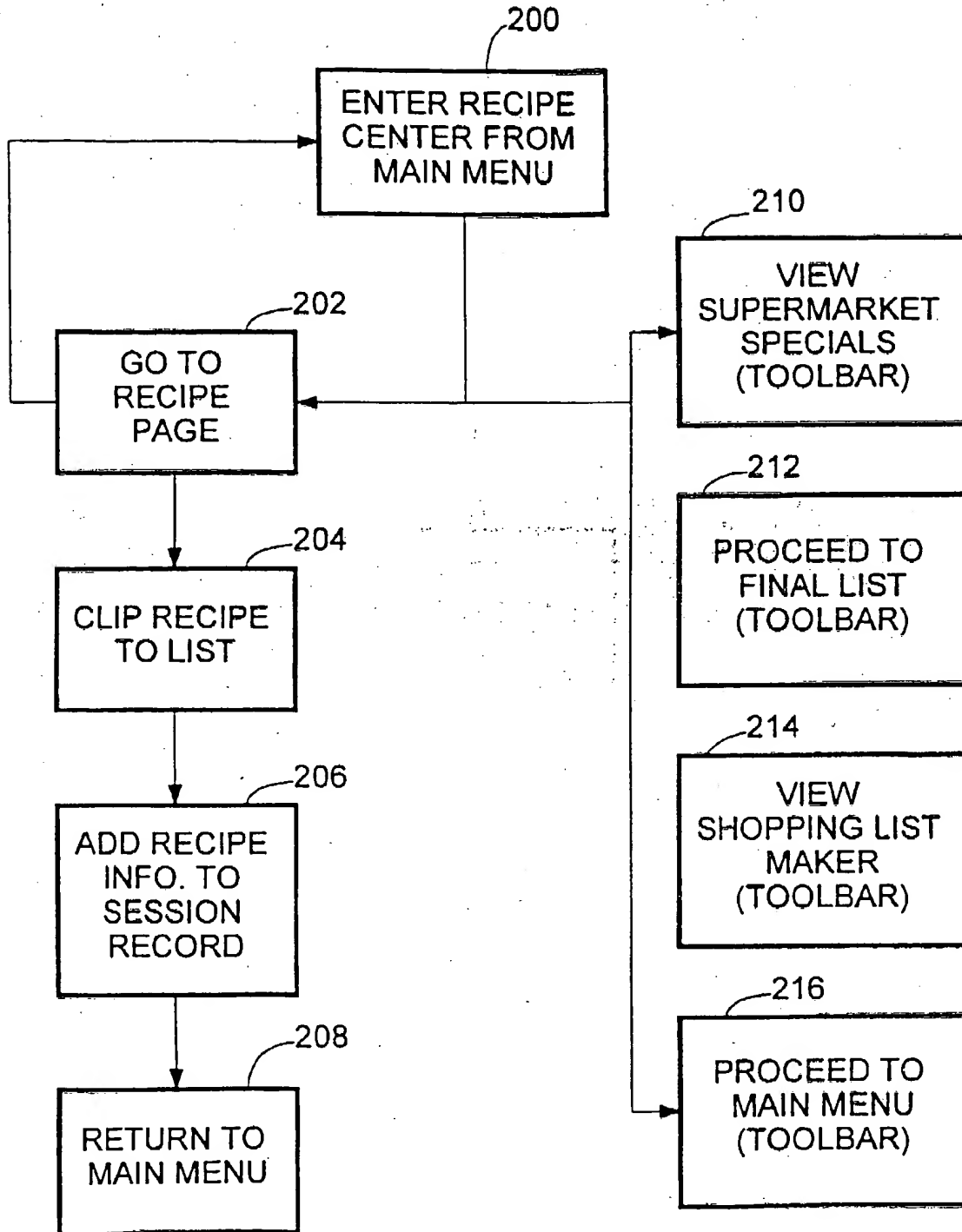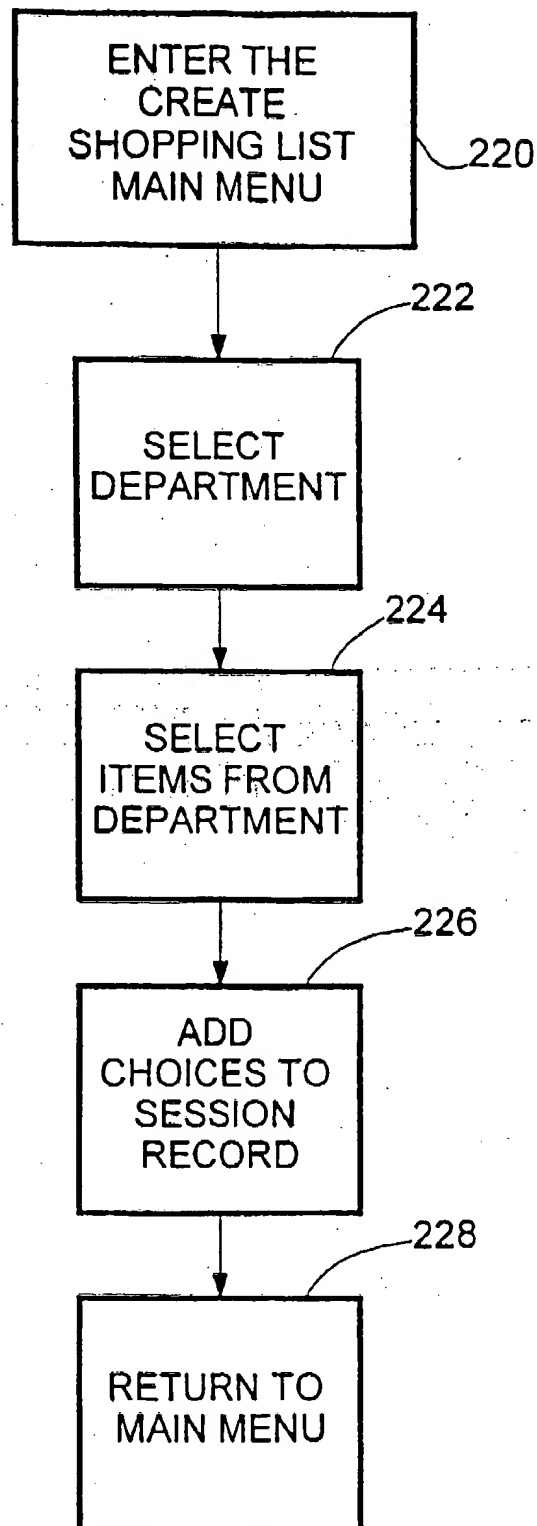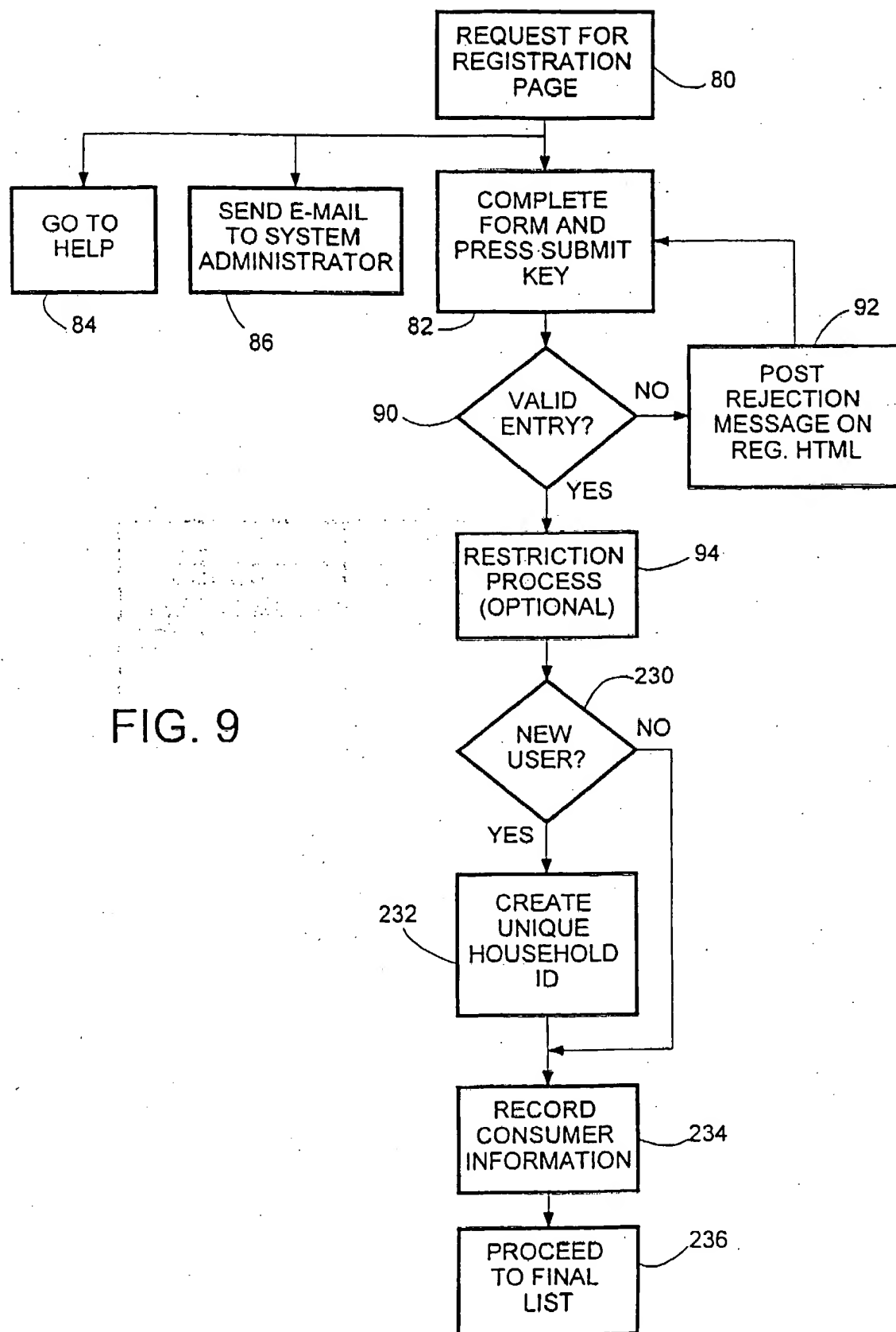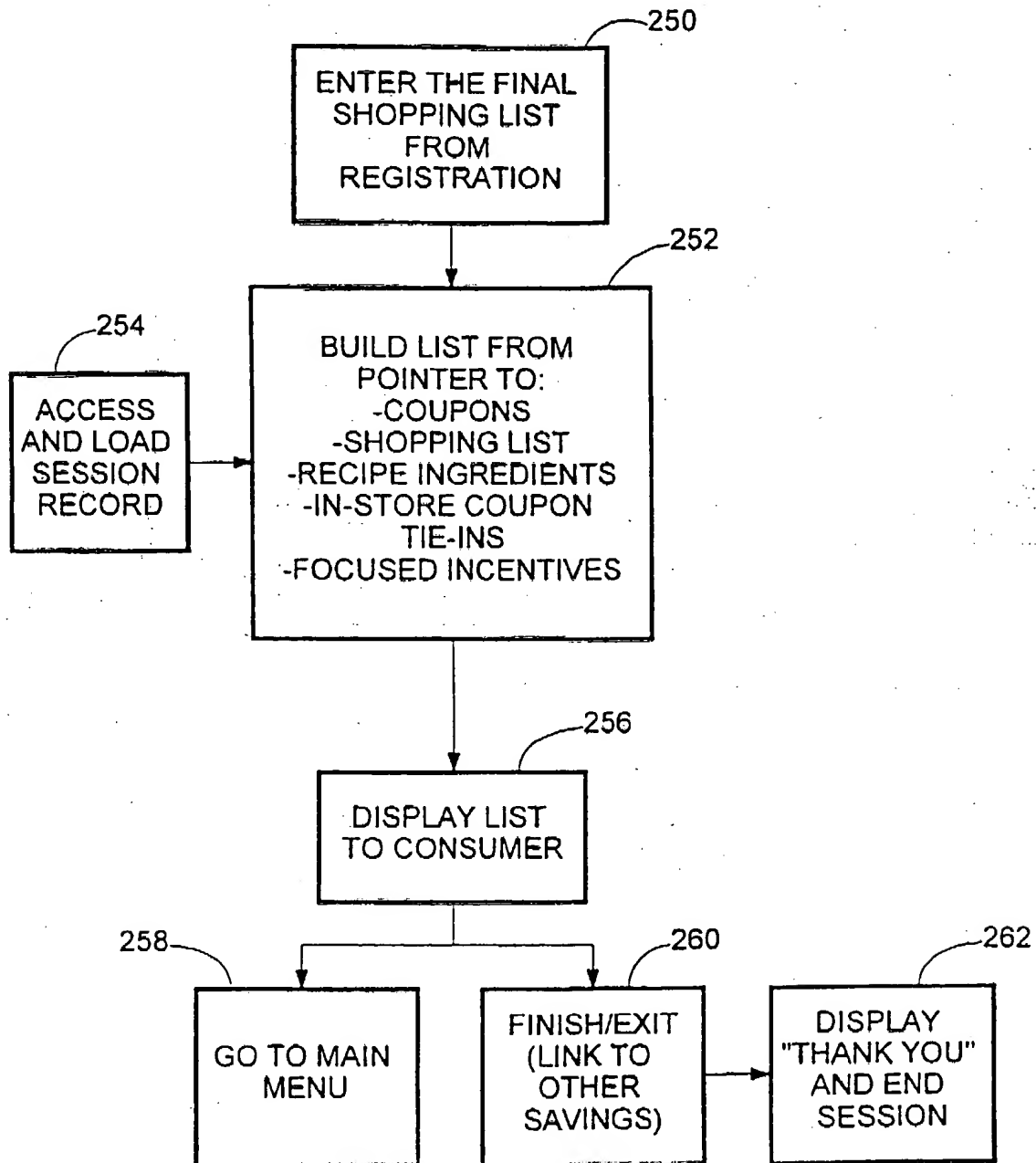mit one coupon per purchase. Must be redeemed prior to expiration date. Coupon may not be duplicated or photocopied. Cannot exceed retail price of couponed product. Cannot be used with other coupons on same item.

Send coupons to P.O.Box 99999 . City , ST. 99999

&X810105492107794X211234567B2

0 7418226130G

#0000000 —J   Redeemable at Designated Supermarket — K

A. CONSUMER'S NAME AND LOCATION COORDINATES
B. COUPON EXPIRATION DATE AND COORDINATES
C. SYSTEM ADMINISTRATOR'S LOGO AND COORDINATES
D. PRODUCT OFFER ICON AND COORDINATES
E. AMOUNT OF SAVINGS AND COORDINATES
F. TERMS FOR RECEIVING SAVINGS AMOUNT AND COORDINATES
G. LEGAL TEXT AND COORDINATES

H. REDEMPTION TEXT AND COORDINATES
I. COUPON SEQUENCE NUMBER
J. BAR CODE NUMBERS AND COORDINATES
   • UPC TYPE 5 CODE AND
   • EAN TYPE 128 CODE

L. COUPON SIZE AND BORDER PARAMETERS
K. SUPERMARKET DESIGNATION AND COORDINATES

CONSUMER INPUT:

-CONSUMER NAME
-COUPON SELECTION
-SUPERMARKET SELECTION

SYSTEM INPUT:

-CONSUMER HOUSEHOLD ID.
-COUPON EXPIRATION DATE
-SYSTEM LOGO
-PRODUCT IMAGE
-SAVINGS AMOUNT IMAGE
-TERMS OF OFFER
-LEGAL TEXT
-REDEMPTION TEXT
-COUPON SEQUENCE NUMBER
-BAR CODE NUMBERS
-COUPON AND BORDER SIZES

270

272

FIG. 12

CREATE BACKGROUND:
CREATE CANVAS; EVALUATE COMPONENTS;
CHOOSE BACKGROUND;
APPLY BACKGROUND TO CANVAS

274

CREATE BORDER:
USE THE BORDER PARAMETERS TO
OUTLINE THE BACKGROUND WITH A
BORDER. PARAMETERS SET WIDTH AND
COLOR.

276

PLACE IMAGES ON BACKGROUND:
TAKE EACH IMAGE AS INPUT AND PUT IT ON
THE BACKGROUND USING THE LOCATION
PARAMETERS PROVIDED IN THE HTML

278

PLACE TEXT ON BACKGROUND:
TAKE EACH TEXT FIELD AS INPUT AND LAY
IT ON THE BACKGROUND USING THE
LOCATION PARAMETERS PROVIDED IN THE
HTML. USE INTERNAL FONTS TO INTERPRET
INPUT.

280

OUTPUT:
FINAL COUPN IMAGE. ALL IMAGE AND TEXT
FIELDS ARE ADDED TO BACKGROUND.

282

FIG. 13

```
  ┌─────────────────┐                    ┌─────────────────┐
  │    CONSUMER     │                    │ CONSUMER LOGS IN│
  │ PURCHASES ITEMS │──400               │ TO ON-LINE      │──410
  │  DURING STORE   │                    │ SYSTEM          │
  │     VISITS      │                    └─────────────────┘
  └─────────────────┘                            │
          │                                      ▼
          ▼                             ┌─────────────────┐
  ┌─────────────────┐                   │ CONSUMER SUPPLIES│──412
  │  CONSUMER USES  │                   │  ID. WHILE ON-LINE│
  │ CHECK CASHING OR│──402              └─────────────────┘
  │ OTHER ID IN PAYING│                          │
  │  FOR PURCHASES  │                            ▼
  └─────────────────┘                   ┌─────────────────┐
          │                             │  ON-LINE SYSTEM │──414
          ▼                             │ GENERATES FOCUSED│
  ┌─────────────────┐                   │ INCENTIVE BASED ON│
  │ IN-STORE COMPUTER│──404             │ PURCHASING HISTORY│
  │ GATHERS PURCHASE│                   └─────────────────┘
  │   HISTORY FOR   │                            │
  │  SELECTED ITEMS │                            ▼
  └─────────────────┘                   ┌─────────────────┐
          │                             │  ON-LINE SYSTEM │──416
          ▼                             │ NOTIFIES CONSUMER│
  ┌─────────────────┐                   │    AND STORE OF │
  │     SYSTEM      │──406              │   INCENTIVE OR  │
  │  ADMINISTRATOR  │                   │ TRANSMITS COUPON│
  │MAINTAINS DATABASE│─ ─ ─ ─ ─ ─ ─     │   TO CONSUMER   │
  │  OF CUSTOMER    │                   └─────────────────┘
  │PURCHASE HISTORIES│                           │
  └─────────────────┘                            ▼
                                        ┌─────────────────┐
                                        │ CONSUMER MAKES  │──408
                                        │ PURCHASE IN STORE│
                                        │ AND RECEIVES VALUE│
                                        │ FOR THE INCENTIVE│
                                        └─────────────────┘
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FIG. 14

FIG. 15

RETAIL
STORES — 500

CONSUMER
PURCHASE
HISTORY — 502

MANUFACTURERS — 518

CONSUMER
E-MAIL
ADDRESS
LISTS — 512

TARGETED
PURCHASE
INCENTIVES — 504

WEEKLY
OFFERS — 520

FORMAT
E-MAIL
MESSAGE TO
CONSUMER — 514

CONSUMER
DATABASE — 506

SYSTEM
ADMINISTRATOR'S
ONLINE WEB SITE — 508

CONSUMER
E-MAIL POST
OFFICE — 516

CONSUMER
REGISTRATION
INFORMATION

CONSUMER'S
COMPUTER — 510

DELIVERY OF
PURCHASE INCENTIVES
BY E-MAIL

SYSTEM AND METHOD FOR PROVIDING SHOPPING AIDS AND INCENTIVES TO CUSTOMERS THROUGH A COMPUTER NETWORK

CROSS-REFERENCES TO RELATED APPLICATIONS

This application is a continuation of application Ser. No. 08/622,685 filed on Mar. 26, 1996 now U.S. Pat. No. 5,970,469 which claims priority to Provisional Application Ser. No. 60/009,244 filed on Dec. 26, 1995.

BACKGROUND OF THE INVENTION

This invention relates generally to systems for providing incentives to customers to shop in retail stores and, more particularly, to systems for delivering customer incentives and other shopping aids via a computer network. Various approaches have been widely used to deliver purchasing incentives, usually in the form of printed discount coupons, to customers of retail stores. Coupons have been distributed to customers by mail, either in a random manner or in a more demographically focused manner. Coupons have also been delivered to customers in retail stores, either from kiosks or at the check-out stand in response to the customer's purchase of some preselected item or items. The latter technique is well documented in prior patents assigned to the same assignee as the present application; e.g., U.S. Pat. No. 4,723,212, "Method and Apparatus for Dispensing Discount Coupons."

In recent years, an increasing number of retail store customers also own personal computers and, of these, many have access to computer network services that provide connections to the Internet and the World Wide Web. Although some computer sites connected to the World Wide Web have begun to offer "online" shopping services, and some services have proposed to deliver discount coupons through a computer network, the full potential of online delivery of incentives has not been realized prior to the present invention.

SUMMARY OF THE INVENTION

The present invention resides in a system and method for the distribution, via a computer network, of incentives and other related shopping aids useful to retail customers. Importantly, the incentives are distributed in such a way that they may be redeemed only at a specific retailer selected by each customer.

Briefly, and in general terms, the method of the invention comprises a sequence of steps performed at a central site in cooperation with a communication device at a customer site. The steps include logging in a remotely located customer using identity data and geographic region data transmitted by the customer over a communication network; transmitting back to the registered customer a plurality of incentive offers, the incentive offers being exercisable in the customer's geographic region; and then receiving incentive offer selection data from the customer over the communication network, the offer selection data including the designation of a retailer at which selected offer or offers may be exercised. In response to the customer selection data, the method performs the steps of generating a purchasing incentive containing (in encoded form) the identity of the retailer designated by the customer and the identity of the customer; and transmitting at least one incentive to the customer over the communication network, for subsequent printing by the

customer. For security reasons, the transmitted incentive may be encoded with the identity of the retailer selected by the customer, and preferably also contains a customer identification code.

An important element of the invention is that it permits the customer to plan his or her shopping and shopping-related activities more efficiently. To this end, the method also includes the step of communicating with the customer concerning the use of shopping aids other than incentives or coupons. In one aspect of the invention, this communicating step includes transmitting a list of products available for purchase, receiving customer selections from the list of products, and then transmitting a shopping list to the customer. Thus the customer may browse through a list or index of available products, preferably organized by store department, and then make selections by marking appropriate entries on a computer screen, such as by positioning a mouse pointer on the desired items and clicking a mouse button.

Another aspect of the invention includes the steps of transmitting meal planning information, including a list of recipes, to the customer, receiving a customer selection of one or more recipe, transmitting back to the customer a shopping list that includes ingredient products needed in each selected recipe, and possibly transmitting to the customer at least one purchase incentive pertaining to an ingredient product used in a selected recipe. While shopping for products with purchasing incentive offers, or while preparing a shopping list, the customer may also use this feature to obtain the details of any recipe that is found to be of interest. The system of the invention transmits the recipe in two separate portions: (a) a complete copy of the recipe in traditional format, including a list of ingredients, and preparation and serving instructions, and (b) the list of ingredients in shopping list form, which the customer may take to the store. The latter portion of the recipe is added to the customer's shopping list automatically and the system transmits a purchase incentive or coupon if an incentive offer is associated with any of the recipe ingredients. The system also provides other meal planning information such as meal calorie and fat content, vegetarian meal ideas and recipes, recipes for meals that can be prepared in under thirty minutes, and so forth.

The purchasing incentive offers in the presently preferred embodiment of the invention are derived from two sources: product manufacturers and retailers. The manufacturers' incentives are presented to the customer in the form of a convenient index that the customer can browse through and select from. Similarly, retail supermarkets provide the source of another set of special offers, organized by store.

Another important aspect of the invention is the manner in which incentives or coupons are generated in the system of the invention. Specifically the step of generating a purchase incentive includes converting numeric and textual information provided by the customer to graphical form; converting other numeric and textual information to graphical form; and merging the converted information with other graphical information defining the incentive, to form a composite graphical incentive image for transmission to the customer.

In one embodiment of the invention the step of transmitting at least one incentive includes transmitting only an advisory message to the customer, and transmitting the terms of the incentive directly to the retail store selected by the customer, for use by the customer on a subsequent visit to the store. In a related embodiment, the step of transmitting

at least one incentive includes transmitting only an incentive token to the customer, and transmitting the terms of the incentive directly to the retail store selected by the customer, for use by the customer, who brings the token to the store on a subsequent visit, and receives the discount or other benefit defined by the incentive offer.

The invention may also be defined in terms of a method for distributing purchasing incentives and other shopping aids to customers over a communication network, the method comprising the steps of: (1) registering as a customer by providing at least an individual identification, a postal region code, and retail store selection; (2) transmitting from a central site and receiving at a remote customer site, a plurality of incentive offers, each of which is exercisable based on the customer's postal region; (3) selecting at the customer site one or more of the incentive offers and transmitting these selections back to the central site; (4) generating at least one purchasing incentive containing in encoded form the identity of the retail store selected by the customer and the identity of the customer; and (5) transmitting at least one incentive to the customer.

The invention may also be defined in terms of a system for distributing purchasing incentives to retail customers, the system comprising a communication network establishing bi-directional communication between a central site and each of a plurality of customer devices; a file at the central site containing a plurality of incentive offers; and a computer located at the central site, for coordinating bi-directional communication with the customers over the communication network. The computer at the central site includes means for registering customer information at the central site, based on information transmitted from any of the customer devices to the central site computer, over the communication network, the customer information including geographical region data and identification data; means for retrieving incentive offers from the file of incentive offers, based on the customer's geographical region, and transmitting the retrieved offers to the customer over the communication network; means for receiving customer selections made from the incentive offers transmitted to the customer, and for receiving a customer designation of a retailer at which the selected incentives are to be exercised; means for generating at least one purchasing incentive containing in encoded form the identity of the retailer designated by the customer and the identity of the customer; and means for transmitting the generated purchasing incentive to the customer over the communication network.

More specifically, the system further comprises another file at the central site containing a list of products available for purchase; and the computer at the central site further includes means, responsive to a customer request, for transmitting the list of products to the customer, receiving customer selections from the list, and transmitting a shopping list back to the customer. The system may further comprise another file at the central site containing meal planning information available for customer use; and the computer at the central site further includes means, responsive to a customer request, for transmitting meal planning information including a list of recipes to the customer, receiving customer selections from the list, and transmitting complete recipes back to the customer, together with an ingredients shopping list and any associated purchasing incentives.

In the disclosed embodiment of the invention, the means for retrieving incentive offers and transmitting them to the customer includes a manufacturer offer file containing purchasing incentive offers currently proposed by manufacturers of products for sale to customers, and also includes a

retailer offer file containing purchasing incentive offers currently proposed by retailers of products for sale to customers.

In one form of the invention, the generated purchasing incentive is transmitted to the customer in the form of an advisory message only, and the computer further includes means for transmitting the terms of a purchasing incentive directly to the retail store designated by the customer, who may then exercise the incentive upon visiting the designated store. In a related form of the invention, the generated purchasing incentive is transmitted to the customer in the form of an encoded token, and the computer further includes means for transmitting the terms of the purchasing incentive directly to the retail store designated by the customer, who may then exercise the incentive upon visiting the designated store and presenting the token.

Implementation of the invention in the form of a network site, such as a World Wide Web site, represents a significant departure from prior, conventional uses of Web sites for commercial purposes. Instead of being administered by or for a single commercial entity, the Web site through which customers communicate in accordance with the present invention is a cooperative site involving both retailers and manufacturers, to provide customers with a variety of information, planning aids, and shopping incentives from multiple sources.

A difficulty with conventional incentive distribution methods is that different retail marketing areas have different weekly cycles on which incentives and discounts are based. In one area, retailers may advertise weekly specials beginning on Thursdays in preparation for weekend buying, while in another area they may advertise weekly specials in a Sunday newspaper supplement. Manufacturers may offer special deals that are completely unsynchronized with these local retailer cycles, based, for example, on a calendar week starting on some other day. In the cooperative site on which the present invention is implemented, all the advertised incentives, whether coming from retailers or manufacturers, can be timed to comply with the advertising cycle of the local retail region.

Another aspect of the invention allows the customer to receive more focused incentives if he or she elects to supply a customer identifying number customer id.) normally used in the purchase of items at the retail store. The customer id. may be a check-cashing card number or other customer loyalty card number, or may be some other form of identification used to pay for purchases. Because the store can track the purchasing history of each customer who consistently uses the same customer id. when paying for the purchases, a customer who supplies this customer id. to the on-line system of the present invention may then receive more targeted incentives based on his or her prior purchasing history. For example, the customer may receive an incentive for his or her favorite brand of toothpaste, based on a prior purchase of the same toothpaste some weeks earlier. If the customer elects not to provide the customer id. to the on-line system, these more targeted incentives will not be available to that customer.

It will be appreciated from the foregoing summary that the present invention represents a significant advance in the field of retail marketing using computer networks. In particular, the system of the invention provides a highly secure incentive distribution scheme because each incentive or coupon may identify the retailer at which the coupon may be used, and also preferably identifies the customer to whom the coupon was issued. The invention also provides a variety

of other planning aids to customers sing computers before visiting a supermarket. These aids include the generation of a shopping list for the customer, the distribution of selected recipes, together with ingredients lists and incentives, if any are available for the ingredients, and the distribution of product information or rebate forms. Other aspects and advantages of the invention will become apparent from the following more detailed description, taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a an overall process flow diagram of the system of the invention;

FIG. 2 is a flow diagram of the log-in process used by a customer in accordance with the invention;

FIG. 3 is a flow diagram of a restriction process used to restrict access to only authorized customers in a selected geographic region;

FIG. 4 is a flow diagram of the main menu process of the system of the invention;

FIG. 5 is a flow diagram of an offer browser process used in the system of the present invention;

FIG. 6 is a flow diagram of a supermarket specials process used in the system of the present invention;

FIG. 7 is a flow diagram of a recipe center process used in the system of the present invention;

FIG. 8 is a flow diagram of a shopping list maker used in the system of the present invention;

FIG. 9 is a flow diagram of a registration process used in the system of the present invention;

FIG. 10 is a flow diagram of a final list process used in the system of the present invention;

FIG. 11 is a pictorial view of a coupon for purposes of explaining how its components are merged dynamically for transmission to the customer;

FIG. 12 is a flow diagram of the process of dynamic coupon creation used in the system of the present invention;

FIG. 13 is a simplified block diagram depicting an alternate embodiment of the invention in which coupons are not distributed directly to customers;

FIG. 14 is a simplified block diagram depicting another aspect of the invention, in which customer id. information volunteered by the on-line customer is used to generate more focused purchase incentives to be transmitted to the customer; and

FIG. 15 is a simplified block diagram depicting another aspect of the invention, whereby targeted and untargeted incentives are delivered to consumers by electronic mail.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in the drawings for purposes of illustration, the present invention pertains to a system for the distribution of shopper incentives and related shopping aids by means of a computer network to which customers have access at remote locations, such as in their homes.

Overview:

FIG. 1 provides an overview flow diagram of the system of the invention.

The system provides a unique communication network connecting consumers, indicated at block 10, retailers 12 and manufacturers 14. The consumers 10 log in and fulfill login requirements as indicated in block 16, and may then proceed to a main menu 20. From the main menu 20, a

consumer may elect to go to an offer browser index page 18, which is linked to an offer browser 22. The offer browser 22 has associated sub-offers 24 available for consumer selection. Basically, the offer browser 22 receives offer data from the manufacturers 14 on a periodic basis, and displays the offers to consumers 10 who have logged in to the system. The offer and sub-offer structure permits consumers to select coupon offers, rebate offers, or information offers made available by the manufacturers. Selected offers are accumulated in a session record maintained for the time that each consumer is logged in to the system.

From the main menu 20, a consumer may also elect to go to a shopping list 26, under which store departments 28 provide lists of products for sale. The consumer may mark any items for entry on a shopping list to be printed later. The consumer may also elect to go from the main menu to a recipe index 30, which provides a linkage to previously stored recipes 32. In response to consumer selection of a recipe 32, the ingredients are automatically entered into the consumer's final shopping list, and any coupon offers or rebate offers associated with any of the ingredients are also automatically included in the final list to be transmitted to the consumer. A consumer may also elect to go from the main menu 20 to a supermarket special index 34, which has linkages to previously stored supermarket special offers 36. These have been entered and periodically updated by the retailers 12. Again, any selected items are automatically entered into the consumer's final shopping list.

When the consumer has finished selecting from the offer browser 22, the shopping list index 26, the recipe index 30 and the supermarket special index 34, he or she may elect to go the final list 40. Prior to generation of the final list, the consumer will be required to enter a valid Internet address for electronic mail (E-mail), and to select a supermarket in his or her area, as indicated in block 42. Once the final list has been generated, the consumer may elect to leave the system through an exit page 44, which may have links to other areas of the system. As also shown in FIG. 1, the consumer may also elect to go to a help page 46, which is accessible from any of the other principal blocks shown in the overview, as indicated by the connections to the main menu 20 and the log-in block 16. The functions described briefly in this overview should become clearer as each is discussed below in more detail.

The Log-in Page:

On first accessing the system of the invention, the consumer encounters the Log-in page, which provides a starting point for each online session. The Log-in page contains a log-in process, as indicated in the flowchart of FIG. 2. A log-in page is presented to the consumer, as indicated in block 80, and the consumer completes an on-screen form and presses (clicks on) a "submit" key, as indicated in block 82. There may be other on-screen buttons available to the user, such as a "help" button 84 and a button 86 to select that E-Mail be sent to the system administrator. At Log-in time, the user is required to enter his or her ZIP code or other postal code, since many of the features of the system are location-dependent. If the postal code entry is determined to be invalid, in block 90, a rejection message is posted on the user's screen, as indicated at 92. If the entry is valid, a restriction process 94 may be performed, then the session is started, as indicated at 96, and the system proceeds to present the main menu to the user, as indicated in block 98.

The restriction process 94 is shown in more detail in FIG. 3. The ZIP or postal code passed to the process from a calling program, such as the Log-in program, as indicated in block 100. Then the ZIP or postal code is checked for

validity, in block 102. Initially, the system may not be in operation in all postal codes, and this validity check restricts access to those consumers with appropriate postal codes. Moreover, not all ZIP or postal codes are necessarily valid or in use. In addition, the ZIP code determines what offers are transmitted to consumers, based on the market areas they reside in. If the postal code is invalid, a rejection message is transmitted to the user, as indicated in block 104.

Optionally, the restriction process also checks the Internet address of the user, referred to as the Internet Protocol (or IP) address, as indicated in block 106. If the IP address is not acceptable, a rejection notice is transmitted to the user, as indicated in block 108. If the IP address is found to be valid, return is made to the calling Log-in program to complete the restriction process, as indicated at 110. Another possibility occurs when there is some doubt, but not certainty, concerning the user's IP address. A trace route is optionally performed on the user's IP address, as indicated in block 112, and the validity is checked once more, as indicated in block 114. If the IP address is this time found to be valid, an IP address table of valid addresses is updated, as shown in block 116, before exiting the process. If the block 114 finds the IP address still invalid, an advisory message is sent to the system administrator, as indicated in block 118, before updating the valid IP address table and exiting the process.

A "help" page is accessible from the Log-in page and from other pages in the system. Its purpose is provide a high-level flowchart to the user, together with associated narrative information, to explain the major functions of the system and how they interrelate in a single session. The "help" page also provides the benefits of the system and functions as an enticement for the user to register.

The Main Menu:

As one might expect, the main menu provides the user with a central page from which all the major functions of the system can be reached. As shown in FIG. 4, the main menu is entered from the Log-in page, indicated at block 120, and provides a main menu and offer index, as indicated in block 122. The main menu screen gives the user at least eight different functions that are selected by pointing and clicking on an appropriate button or icon. The functions include:

Select the recipe center (block 124),

Select supermarket specials (block 126),

Select help (block 128),

Select E-Mail to the system administrator (block 130),

Select the shopping list maker (block 132),

Select an offer from an index of offers (block 134),

Select going to an offer browser (block 136), and

Select final list processing (block 138).

The final list is a composite of all prior activities of the user during the current online session. In the offer browser, the user may select an offer from a matrix of offers (the offer index), and the selected offer is then added to the final list for this session. In the shopping list maker, the user selects specific items that he or she intends to purchase during the next store visit. These items are added to the final list. The recipe center allows the user to select one or more recipes from an offered list. The ingredients needed in the recipes are also added to the final list. The supermarket specials button allows the user to choose any of a number of advertised specials and add these to the final list.

Offer Browser:

The offer browser contains advertised offers submitted by product manufacturers. As shown in FIG. 5, the offer browser is entered from the main menu, via block 140, and opens with an individual offer page 142. The offer page contains details of an offer, along with a number of control buttons. The user may select prior or next offers, as indicated in block 144, or may select a coupon based on the offer, as indicated in block 145, the coupon being added to the session record as indicated in block 147. Each offer may have a number of sub-offer options associated with it, including:

adding the coupon to the final list,

entering a sweepstakes competition automatically,

displaying a rebate form, for completion and adding to the final list,

displaying information about the product involved in the offer,

mailing information about the product involved in the offer,

playing an audio message related to the offer,

mailing a sample of the product involved in the offer,

displaying a recipe associated with the product involved in the offer, and

presenting a questionnaire associated with the offer.

Offers can be "clipped" by the user only once per session, and validity checking ensures that each offer enters the session file, and final list, only once. FIG. 5 shows the principal functions that may be performed in the offer browser, including: a help button 46', a view supermarket specials button 146, a view recipe center button 148, a view shopping list maker 150, a return to main menu button 152, and a button 154 to select a sample, mailed information or sweepstakes entry. The latter button initiates generation of a report containing the customer information and is sent to a fulfillment center, as indicated in blocks 156 and 158. Other options shown in FIG. 5 include a link to recipe button 160, actuation of which results in creation of a recipe page (block 162), which is sent to the user or customer (block 164), and also results in the recipe and coupons being added the final list (block 166). Another function is to link to the display of additional offer or product information, as indicated in blocks 168 and 170. Also shown is a link to obtain a rebate (blocks 172, 174 and 176), a link to select audio information (blocks 178 and 180) and a link to the final list 181. Finally, there is a link 182 to a questionnaire that the consumer may complete, and an associated link 183 to an order offer.

Supermarket Specials:

Another main menu function is to provide linkage to a supermarket specials page. Information for this page is provided by participating supermarket retailers and is limited by supermarket shopping area determined from the user's ZIP or postal code.

As shown in FIG. 6, a user of this feature first enters a supermarket special directory page 184, i.e. a directory of supermarkets in his or her shopping area. The user selects a supermarket, as indicated in block 185, and then may select items included in the current list of special offers by the selected supermarket, as indicated in block 186. Each selected item is added to the session record and, subsequently, to the final list, as shown in block 188, and then the process returns to the main menu, as indicated in block 190. If the user elects not to take advantage of any of the supermarket specials, the user has the option to exit to other functions in the system, as shown in blocks 192, 194, 196, 198 and 199.

Recipe Center:

FIG. 7 shows the recipe center functions, which are displayed when the user enters the recipe center from the main menu or elsewhere, as indicated in block 200. The user in this page may elect to go to the recipe page (block 202)

and clip a recipe from the displayed list of recipes (block 204). A selected ("clipped") recipe will be added to the information in the session record (block 206), for eventual inclusion in the final list, and then recipe center process is terminated by a return to the main menu (block 208). If no recipe is selected, the user may exit the recipe center as shown in blocks 210, 212, 214 and 216. Each recipe page section contains recipe ingredients and instructions, as well as coupon offers for various ingredients or recipe mixes. When the recipe is added to the final list, the associated coupons are also included.

Shopping List Maker:

The shopping list maker is entered, as indicated in block 220, from the main menu, or from any of various other screens. The user may select a store department (block 222), such as meat, produce, and so forth, then select from displayed items sold in that department, as indicated in block 224. The selected items are added to the session record, as indicated in block 226, before a return is made to the main menu, as indicated in block 228. Items may be selected for adding to the shopping list whether or not any of the items is subject to a manufacturers' or supermarket special offer. Optionally, manufacturer and retailer offers may be displayed in the appropriate sections to alert the user of specials available.

Household Registration:

A more specific registration procedure is provided immediately before the consumer enters the phase of final list generation. At log-in, the only information needed to go forward with the session was the consumer's ZIP or postal code. At this stage, before generation of the final list, registration requires a valid E-mail address. Optional information includes a first name and a last name of the consumer, a street address, city and state, and selected demographic information including the number of persons in the household, age categories of persons in the household, and number of pets, if any, in the household. The primary purpose of the registration is customer identification, with a secondary purpose of demographic analysis.

FIG. 9 shows the registration process, which is similar to the Log-in process of FIG. 2, and identical reference numeral are used where appropriate. During the registration process, the customer's E-mail address is verified for correct syntax, as shown in block 90. The first time the customer registers, the E-mail address is used to create a unique household identification (id.), as shown in blocks 230 and 232. Subsequently, the user's household id. is used to reference prior registration information. The next steps are to record or update the consumer information, as indicated in block 234, and to proceed to final list generation, as indicated in block 236.

Final List Generation:

FIG. 10 shows the principal functions performed when the user enters the final list generation phase, as indicated in block 250. The system builds the final list, as indicated in block 252, using the session record that has accumulated items selected by the user, as indicated in block 254. The final list is displayed to the user, as indicated in block 256, and the user may then exit to the main menu (block 258) or go to an exit page (block 260), which may have links to other shopper savings opportunities. The final list generation phase also contains hyperlinks to sites established by individual manufacturers and retailers. Finally, the system displays a "thank you" message and ends the session, as indicated in block 262.

When the user enters the final list generation phase, he or she will have to make a selection from a list of supermarkets in the immediate shopping area. All the coupons printed will be specific to this selected supermarket, and invalid everywhere else.

The final list will contain everything that the consumer has selected during the current session, including shopping list items, supermarket specials, a shopping list of recipe ingredients of selected recipes, including any special offers, and may also provide a recipe page giving the ingredients and preparation instructions for each selected recipe, rebate forms complete with customer information, a summary of offers selected, and coupons in redeemable format. Information encoded onto each coupon will include the product code, the consumer's household id., an offer code, an expiration date, a serial number, a valid supermarket id. and Internet consumer's name.

Dynamic Coupon Creation:

Unlike coupons printed for distribution by mail or printed on an in-store printer, the coupons distributed over the Internet in accordance with the present invention, are created in real time to include information provided by the consumer at his or her remote location. Thus each coupon image is generated dynamically to include this consumer-supplied information, which is required principally for security reasons. As explained earlier, each coupon contains not just a product code and coupon conditions, but also the consumer's name or household id., the retailer id. where the coupon must be redeemed, and a coupon sequence number for added security. Merging all this information into a graphical image in a real time mode for transmission over the computer network posed additional challenges for implementation of the invention.

More specifically, the input information that has to be incorporated into each coupon includes:

The consumer's name and the location coordinates for location on the coupon,

The coupon expiration date and its coordinates,

The logo of the system and its coordinates,

The product offer icon and its coordinates,

The amount of savings and its coordinates,

The terms for receiving savings amount and its coordinates

The legal text and its coordinates,

The redemption text and its coordinates,

The coupon sequence number and its coordinates,

The bar code numbers and their coordinates,

The supermarket designation and its coordinates, and

The coupon size and border parameters.

FIG. 11 shows a typical coupon format and FIG. 12 summarizes the functions performed in creating the coupon dynamically. Block 270 lists the input items obtained from the consumer: the consumer name, the coupon selection and the supermarket selection. Block 272 lists the input items that are obtained from the system: the consumer's household id., the coupon expiration date, the system logo, the product image, the savings amount image, the terms of the offer, the legal text, the redemption text, the coupon sequence number, the bar code numbers and the coupon border and sizes. Of these, only a few are static, i.e. unchanging from coupon to coupon, such as the system logo and the coupon border and size. The rest are dynamic and dependent on the specific offer selected by the consumer, or dependent on information supplied by the consumer. The expiration date is dynamic in the sense that it is keyed to the coupon issue or print date.

The first step in the coupon creation process, indicated in block 274, is to create the coupon background from the

coupon size coordinates, to create an image that will be the background of the coupon. The image is created using the standard format known as the graphics image format (GIF). An important feature of the invention is that the printed coupons preferably include a complex background pattern to reduce the potential of fraudulent creation or modification of the coupons. Several intricate background patterns are stored in advance for use in this step of the coupon creation process. The background pattern for current use is selected from the pre-stored patterns on a regular or random basis. The coupon offer information shown in FIG. 11 is printed over the background to render unauthorized creation, modification or duplication more difficult. Basically, the creation of the background includes the steps of first creating a "canvas" for the coupon, such as a one-color background on which the other image elements will be overlaid; then evaluating the coupon components (the retailer, product, text messages and so forth); then selecting a background image based on random or pre-set parameters; and applying the background image to the canvas. Selection of the background pattern may be based, in part, on the content of the coupon. For example, different background images may be used for different manufacturers, different products, or even different consumers. The background image is a complex pattern of relatively light intensity, so as not to interfere with scanned bar codes on the coupon. The pattern may contain textual characters, or a repetitive design, or may be of a variable and seemingly random nature, as depicted in FIG. 1 1. The complexity and varied nature of the background image makes unauthorized alteration or creation of coupons extremely difficult, because alteration of any of the coupon components, such as price, bar code or text, will also visibly disturb the background image. Although counterfeit coupons may not always be detected in a retail store, the presence of the background pattern makes it likely that they will be detected at some later stage of coupon redemption.

Next, in block 276, the coupon border is created using the border parameters to outline the background with a border of selected width and color. Next, as indicated in block 278, the graphics images in the inputs are placed on the background using the location images provided in the hypertext markup language (HTML).

Next, as indicated in block 280, the text input items, including the bar codes, are placed on the background image using the location parameters provided in the HTML format. Each text character, including ASCII characters and the bar-code numerical quantities, is converted to a graphical image using internally stored font files. Finally, the composite image of the coupon obtained from the preceding steps is merged with other output data and is output to the consumer's computer, as indicated in block 282.

Transmitting Incentives without Physical Coupons:

An alternative arrangement for distributing purchasing incentives over the Internet is illustrated in FIG. 13. This figure shows an incentive distribution server computer 300 and a user's personal computer 302 connected together through a computer network, indicated by the network cloud 304. The server 300 has an associated storage device 306 on which are stored multiple advertisements and promotions. The system as described thus far operates in much the same way as the system described above with reference to FIGS. 1–11. A user 308 logs on to the server 300 through the network 304 and selects from a variety of offers stored on the storage device 306 by manufacturers and retailers. However, instead of transmitting the coupons to the user computer 302, the server 300 functions in accordance with one of the following options:

(a) The server 300 transmits purchase incentive data to an in-store server 310 in the supermarket selected by the user 308, which gives the user an appropriate discount automatically when he or she presents items for checkout and a point-of-sale checkout scanner 312, with appropriate identification recognized by the in-store server 310. Promotions or discounts are given to the customer, as indicated at 314. The server 300 may also send an advisory message to the customer to confirm the existence of the promotion.

(b) The server 300 transmits the image of a token 316 of some kind to the user's computer 302. The token defines the coupon offer, preferably in coded form, such as in bar codes, but is not recognizable as a coupon. The token may, for example, be an encoded confirmation number. The user 308 presents the token 316 at the store he or she has selected, and receives the appropriate discount or promotion automatically.

Generation and Delivery of Focused Incentives:

The invention may be further enhanced by employing individual purchase histories of individual customers, as depicted in FIG. 14. The shopping behavior of customers is routinely tracked in connection with the generation of in-store incentives in the form of discount coupons printed as the customer pays for his or her purchases, as shown in blocks 400 and 402. Each customer's purchasing behavior is tracked only if the customer provides some form of unique identification during the purchase transactions, such as a check-cashing card, a credit card, a magnetically encoded check, or other form of identification. The purchase of any of a number of selected items can then be associated with a specific customer id., as indicated in block 404, and a system administrator maintains a database of customer purchase histories, as indicated in block 406. When the customer visits the store, a focused incentive may be printed based on a selected event in the customer's past shopping behavior, as indicated in block 408. In accordance with this aspect of the present invention, a customer who has logged in to the system (block 410) is asked to supply the customer id. used for in-store purchases (block 412). The customer id. may be a check-cashing card number, or other form of identification that allows the system to access the customer's purchasing history, and then select a purchasing incentive based on some aspect of the customer's prior shopping history, as indicated in block 414. This incentive is transmitted to the customer, as indicated in block 416, in the form of an Internet message, for retrieval when the customer next accesses the Web site or checks for electronic mail (E-mail). The incentive message informs the customer that one or more specific offers are available and may be received at the checkout stand when the prerequisite products are purchased. Alternatively, a paper coupon may be transmitted to the customer's computer site and printed for later presentation in the store.

Customers who volunteer the necessary linkage in the form of their customer id. may be rewarded in some manner. The customer id. may be requested only once and then used for all subsequent sessions in which the customer logs in to the system. Once the linkage is established, the consumer purchase history data or targeted incentives needed to support this capability of the invention are periodically transferred from the shopper purchase history system to the on-line system of the present invention. Delivery of Incentives by E-mail:

As shown in FIG. 15, the system of the invention also has the capability to deliver targeted or untargeted incentives to consumers through their online E-mail addresses on the Internet or another computer network. Retail stores, indi-

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cated by block 500, gather purchase data and either the retailers or an independent system administrator accumulates the consumer purchase history in a database, indicated at 502. The database 502 is developed as a result of consumers being uniquely identified on each visit to the store, by use of a frequent shopper card, a credit card or some other form of identification.

Targeted purchase incentives are generated from the consumer purchase history database 502, as indicated in block 504. The system administrator also maintains a consumer database 506, which identifies consumers by their E-mail addresses. Alternatively, the consumer database 506 may be integrated with the consumer purchase history database 502. The consumer database 506 receives data primarily from the system administrator's Web site, indicated at block 508, which, in turn, receives a consumer's E-mail address from each consumer's computer, indicated at 510. The consumer database 506 may also receive E-mail addresses from independent consumer E-mail address lists, indicated in block 512.

Using E-mail address information from the consumer database 506 and targeted incentive information based on the consumer's purchase history, from database 502, the system of the invention formats an E-mail message to the consumer, as indicated in block 514, and transmits it to the consumer's computer 510 through the consumers E-mail "post office," as indicated in block 516. The purchasing incentives are delivered to the consumer by electronic mail for subsequent printing of a coupon, or simply in the form of a token of some kind to be taken to the store. This approach allows producing targeted, time phased incentives based on the consumer's actual buying patterns and preferences, and delivering them in the home prior to the consumer's shopping trip.

The same delivery mechanism can also be used to deliver untargeted or less targeted incentives from manufacturers, indicated at 518. The manufacturers may, for example, generate weekly offers, as shown in block 520, which the system delivers to selected consumers. Selection of consumers may be based on a customer profile or on demographic information maintained by the system administrator and selected by the manufacturer. For example, the manufacturer may identify the type of household it would like to target and the incentive would be delivered to designated consumers in the consumer database 506 who meet the profile qualifications.

Another aspect of the invention permits the delivery via E-mail of general messages or incentives to consumers who meet selected non-demographic criteria, such as those who have not recently visited the Web site, or those who have not selected or redeemed online purchase incentives during a recent selected period. In such cases, a special promotion might be delivered to the consumer to encourage more active participation. Untargeted messages or notices can also be broadcast to large numbers of consumers to encourage them to visit a specific retail store, or to purchase a specific manufacturer's product, or to visit the Web site.

Conclusion:

It will be appreciated from the foregoing that the present invention represents a significant advance over other systems for distributing purchasing incentives and other shopping aids via computer network. In particular, the system and method of the invention provide for incentive distribution in such a way that the opportunities for fraudulent generation or use of coupons is minimized, since each coupon uniquely identifies the consumer to whom is was issued and the retail store or chain in which it can be

redeemed. The invention also uses a novel technique for dynamically creating coupon images for transmission over a computer network. In an alternative embodiment of the invention, physical coupons are not printed at all, but coupon data are either transmitted directly to the retail store, or is sent to the consumer in the form of a token instead of a coupon. In addition to the transmission of purchasing incentives over a computer network, the present invention also provides a medium for transmitting other consumer planning aids, such as shopping list selections, recipe selections, rebate offers, and product information, over the network. In a further extension of the invention, if the customer provides an identification number used in payment for in-store purchases, more focused incentives can be transmitted to the customer based on his or her prior shopping history. It will also be appreciated that, although a limited number embodiments of the invention have been described in detail for purposes of illustration, various modifications may be made without departing from the spirit and scope of the invention. Accordingly, the invention should not be limited except as by the appended claims.

We claim:

1. A system for distributing purchasing incentives to retail customers, said system comprising:

a central computer configured to prompt over a computer network a user for region a personal computer configured to transmit the user's region data from said personal computer over said computer network to said central computer; and

wherein, if said user's region data identifies a selected region, said central computer is configured to transmit a selected region incentive offer for a product to said personal computer;

wherein said personal computer is further configured (1) to print or display said selected region incentive offer having a canvas on which at least two members of a set of image elements including the system's logo, an incentive offer's size and border parameters a user's name, a selected region incentive offer's expiration date, a product's icon, a selected region incentive offer's amount, a selected region incentive offer's terms, legal text, redemption text, a selected region incentive offer's sequence number, bar code numbers, and a selected region incentive offer's designated supermarket are overlaid, (2) to select a background image based on random or preset parameters, and (3) to apply said background image to said canvas

wherein the central computer is further configured to transmit terms of the selected region incentive offer and identity data to an in-store server computer.

2. The system of claim 1, wherein said personal computer is further configured to select said background image having a complex pattern such that said background image does not interfere with scanned bar codes on said selected region incentive offer.

3. A system for distributing purchasing incentives to retail customers, said system comprising:

a central computer configured to prompt over a computer network a user for region a personal computer configured to transmit the user's region data from said personal computer over said computer network to said central computer;

wherein, if said user's region data identifies a selected region, said central computer is configured to transmit a selected region incentive offer for a product to said personal computer;

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wherein image elements and their respective location coordinates for location on said selected region incentive offer are transmitted to said personal computer in order to generate said selected region incentive offer, said image elements including:
the system's logo and
said incentive offer's size and border parameters;

wherein said image elements and their respective location coordinates for location on said selected region incentive offer further include:
said user's name;
aid selected region incentive offer's expiration date;
said product's icon;
said selected region incentive offer's amount;
said selected region incentive offer's terms;
a legal text;
a redemption text;
said selected region incentive offer's sequence number;
bar code numbers; and,
said selected region incentive offer's designated supermarket; and

wherein said personal computer is further configured (1) to print or display said selected region incentive offer having a canvas on which said image elements are overlaid, (2) to select a background image based on random or preset parameters, and (3) to apply said background image to said canvas

wherein the central computer is further configured to transmit terms of the selected region incentive offer and identity data to an in-store server computer.

4. A system for providing a purchase incentives to customers, said system comprising:
a central computer configured to prompt for data indicating identity and to transmit an incentive offer in response to receiving identity data over a computer network; and
a personal computer configured to transmit the identity data upon being prompted and to transmit offer selection data in response to the incentive offer over the computer network;
wherein in response to the selection data, said central computer is configured (1) to transmit an advisory message to said personal computer confirming the existence of the incentive and indicating that the incentive will be provided when the selected incentive offer is exercised and (2) to transmit terms of the selected incentive offer and the identity data to an in-store server computer.

5. The system of claim 4, wherein said central computer is further configured to transmit an incentive offer only at a time which complies with the advertising cycle of the retailer or manufacture issuing the incentive offer.

6. A system for distributing purchasing incentives to a plurality of personal computers over a computer network, comprising:
a central computer at a central site, said computer network connecting said central computer to said plurality of personal computers;
said central computer including:
means for transmitting a prompt for personal identity data, said personal identity data defining a personal identity, and region data over said computer network to said plurality of personal computers;
means for storing said personal identity data and region data transmitted from one of said plurality of personal computers over said computer network to said central computer, in response to said prompt;

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means for transmitting an incentive offer over said computer network to said one of said plurality of personal computers, said incentive offer being exercisable only in a region corresponding to said region data received from said one of said personal computers;
means for storing incentive offer selection data transmitted from said one of said personal computers over said computer network to said central computer, wherein incentive offer selection data received from said one of said plurality of personal computers is stored in association with a personal identity associated with that personal computer;
means for generating data defining a purchasing incentive containing in encoded form an identity of a retailer designated by said incentive offer selection data and said personal identity;
means for transmitting said data defining said purchasing incentive over said computer network to said one of said plurality of personal computers;
wherein said means for transmitting said data defining said purchasing incentive comprises:
means for transmitting an advisory message over said computer network to said one of said plurality of personal computers, said advisory message corresponding to said purchasing incentive;
means for transmitting terms of said purchasing incentive to said retailer designated by said incentive offer selection data from said central site; and
wherein said purchase message corresponding to said advisory message is exercisable at said retailer designated by said incentive offer selection data.

7. A system for distributing purchasing incentives to a plurality of personal computers over a computer network, comprising:
a central computer at a central site, said computer network connecting said central computer to said plurality of personal computers;
said central computer including:
means for transmitting a prompt for personal identity data, said personal identity data defining a personal identity, and region data over said computer network to said plurality of personal computers;
means for storing said personal identity data and region data transmitted from one of said plurality of personal computers over said computer network to said central computer, in response to said prompt;
means for transmitting an incentive offer over said computer network to said one of said plurality of personal computers, said incentive offer being exercisable only in a region corresponding to said region data received from said one of said personal computers;
means for storing incentive offer selection data transmitted from said one of said personal computers over said computer network to said central computer, wherein incentive offer selection data received from said one of said plurality of personal computers is stored in association with a personal identity associated with that personal computer;
means for generating data defining a purchasing incentive containing in encoded form an identity of a retailer designated by said incentive offer selection data and said personal identity;
means for transmitting said data defining said purchasing incentive over said computer network to said one of said plurality of personal computers;

wherein said means for transmitting said data defining said purchasing incentive comprises:

means for transmitting an incentive token over said computer network to said one of said plurality of personal computers, said incentive token corresponding to said purchasing incentive; and

means for transmitting terms of said purchasing incentive to said retailer designated by said incentive offer selection data from said central site;

wherein said incentive token is exercisable at said retailer designated by said incentive offer selection data.

8. A method for distributing purchasing incentives to customers, said method comprising the steps of:

transmitting a prompt for identity data from a central computer over a computer network to a personal computer;

in response to said prompt, transmitting said identity data over said computer network to said central computer;

transmitting an incentive offer over said computer network to said personal computer;

transmitting incentive offer selection data over said computer network to said central computer; and

in response to said selection data, transmitting data defining an incentive token over said computer network to said personal computer, wherein said incentive token is exercisable for said incentive at a store designated by said incentive offer, further comprising transmitting terms of said purchasing incentive to an in-store server computer.

9. A method for providing a purchase incentives to customers, said method comprising the steps of:

transmitting a prompt for identity data from a central computer over a computer network to a personal computer;

in response to said prompt, transmitting said identity data over said computer network to said central computer;

transmitting an incentive offer over said computer network to said personal computer;

transmitting incentive offer selection data over said computer network to said central computer;

in response to said selection data, transmitting an advisory message to said personal computer confirming the existence of the incentive and indicating that the incentive will be provided when the selected incentive offer is exercised; and

transmitting terms of said selected incentive offer and said identity data to an in-store server computer.

10. A system for providing a purchase incentives to customers, said system comprising:

means for transmitting a prompt for identity data from a central computer over a computer network to a personal computer;

means for, in response to said prompt, transmitting said identity data over said computer network to said central computer;

means for transmitting an incentive offer over said computer network to said personal computer;

means for transmitting incentive offer selection data over said computer network to said central computer;

means for, in response to said selection data, transmitting an advisory message to said personal computer confirming the existence of the incentive and indicating that the incentive will be provided when the selected incentive offer is exercised; and

means for transmitting terms of said selected incentive offer and said identity data to an in-store server computer.

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(12) **United States Patent**
Deaton et al.

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(45) Date of Patent: **Sep. 18, 2001**

(54) **METHOD AND SYSTEM FOR GENERATING INCENTIVES BASED ON SUBSTANTIALLY REAL-TIME PRODUCT PURCHASE INFORMATION**

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(51) Int. Cl.[7] G06F 17/60

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(58) Field of Search 705/14, 16, 21

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(57) **ABSTRACT**

A method for use in marketing includes receiving at a remote location through the Internet, substantially real-time product purchase information from a retail store in conjunction with an identification code of a customer purchasing the parts at a point-of-sale. The method also includes generating at the remote location an incentive to be communicated to the identified customer and initiating communication of data relative to the incentive to the identified customer at the point-of-sale.

213 Claims, 7 Drawing Sheets
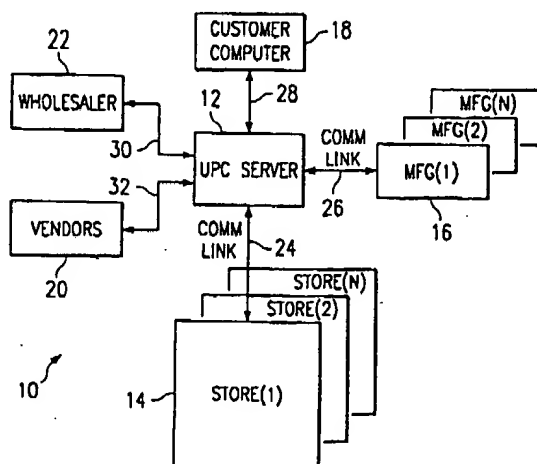
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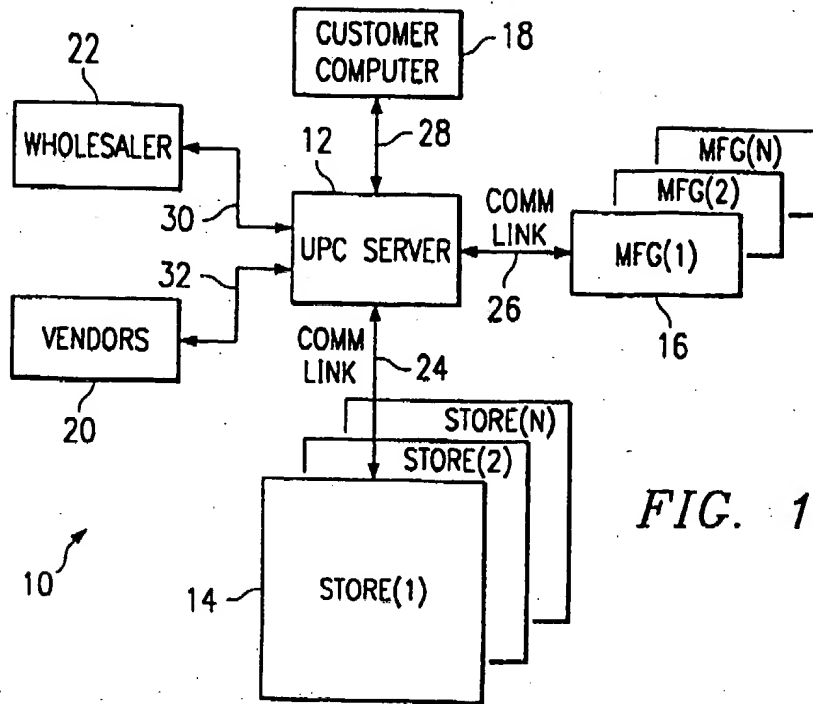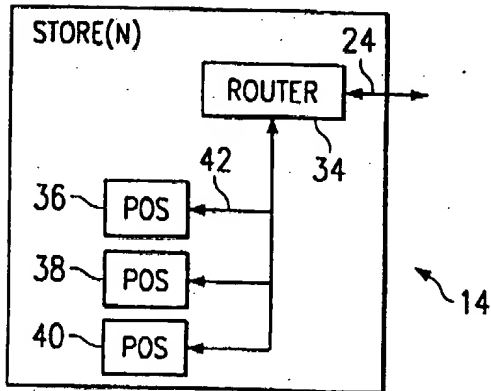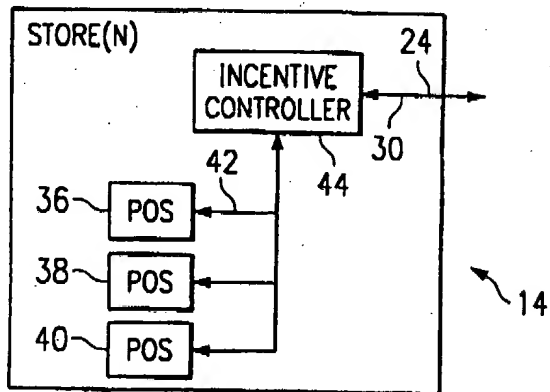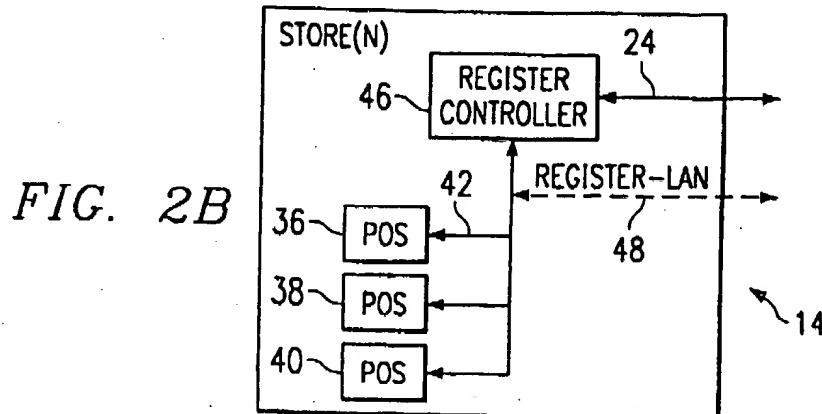
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FIG. 1

FIG. 2A

FIG. 2C

FIG. 2B

FIG. 2D

FIG. 2E

FIG. 3

12

FIG. 4A

OUTPUT DEVICE —68

64

MEMORY

UPC SERVER SOFTWARE

STORAGE — PROCESSOR

62

INPUT DEVICE

66

60

70

KIOSK

CARD READER

DISPLAY

140

142

PRINTER

KEYBOARD

144

146

47

FIG. 4B

FIG. 5

73 — START

74 — RECEIVE PURCHASE INFORMATION

72

76 — EVALUATE POSITION

78 — INTERCEDE

FIG. 6A

UPC SERVER

FILTER

OUTPUT PORT

12

84

16

INPUT PORT — 80

82

24

FIG. 6B

12

OUTPUT DEVICE — 68

64

MEMORY

FILTERING SOFTWARE

STORAGE

PROCESSOR

62

66 — INPUT DEVICE   60

83

---

130 — START

132 — RECEIVE UNIFORM PRODUCT CODES IN ASSOCIATION WITH PRICES

134 — COMPARE UNIFORM PRODUCT CODES TO STORED UNIFORM PRODUCT CODES

136 — GENERATE NUMBER OF INCIDENCES OF UNIQUE UNIFORM PRODUCT CODES

138 — GENERATE PRICES FOR EACH UNIQUE UNIFORM PRODUCT CODE

140 — INITIATE COMMUNICATION TO CLIENT

142 — STOP

FIG. 6C

START — 170

RECEIVE UPC AND PRICE DATA — 172

174 SHOPPER CARD?   YES

176 NO

RETRIEVE CUSTOMER RECORD FOR ITEM STORAGE

RECORD ACTIVITY OF DISCRETE UPC SCANNED — 178

RECORD ITEM PURCHASE IN CUSTOMER RECORD — 180

UPDATE PRICE OF ITEM IN ITEM FILE FOR THE SOURCE RETAILER — 182

FIG. 6D

FIG. 6E

190 — START

192 — CLIENT ACCESSES UPC SERVER

194 — UPC SERVER RETRIEVES PARAMETER LIST FOR CLIENT INDICATING UPC LIST FOR FILTERING

196 — CLIENT SENDS ADDITIONAL FILTERING PARAMETERS

198 — UPC SERVER ACCESSES DATA AND PROVIDES INFORMATION TO CLIENT

200 — CLIENT ANALYZES DATA TO DETERMINE IF MARKETING ACTION IS NEEDED

ACTION NEEDED? — 202 — NO

YES

204 — CLIENT SENDS RESPONSE TO UPC SERVER

206 — STOP

FIG. 7

START — 85

RECEIVED INFORMATION — 86

DETERMINE CRITERIA — 88

CRITERIA LEVEL EXCEEDED — 90

YES

NO

INTERCEDE — 92

FIG. 8A

UPC SERVER

CONCENTRATOR

INPUT PORT

MFG

OUPUT PORT

96   94   16

98

12

TO CUSTOMER

150 START

152 RECEIVE A PLURALITY OF ELECTRONIC MAIL MESSAGES WITH IDENTIFIER

154 COMPILE ALL ELECTRONIC MAIL MESSAGES HAVING A COMMON IDENTIFIER INTO SINGLE MESSAGES

156 INITIATE COMMUNICATION TO CUSTOMER

160 STOP

FIG. 8B

START 210

RECEIVE A PLURALITY OF PARAMETERS ALONG WITH E-MAIL MESSAGE HAVING AN INCENTIVE 212

ANALYZE PRODUCT PURCHASE INFORMATION TO DETERMINE IF MESSAGE SHOULD BE SENT 214

CONSOLIDATE ALL APPLICABLE E-MAIL MESSAGES INTO SINGLE, CONCISE E-MAIL MESSAGE FOR CUSTOMER 216

SEND E-MAIL TO CUSTOMER 218

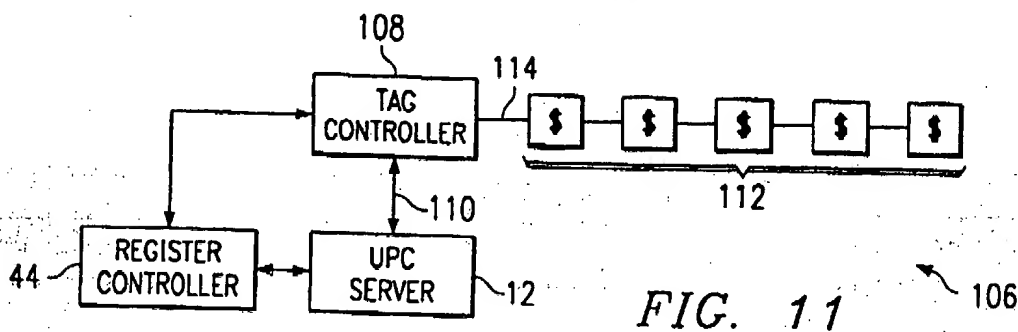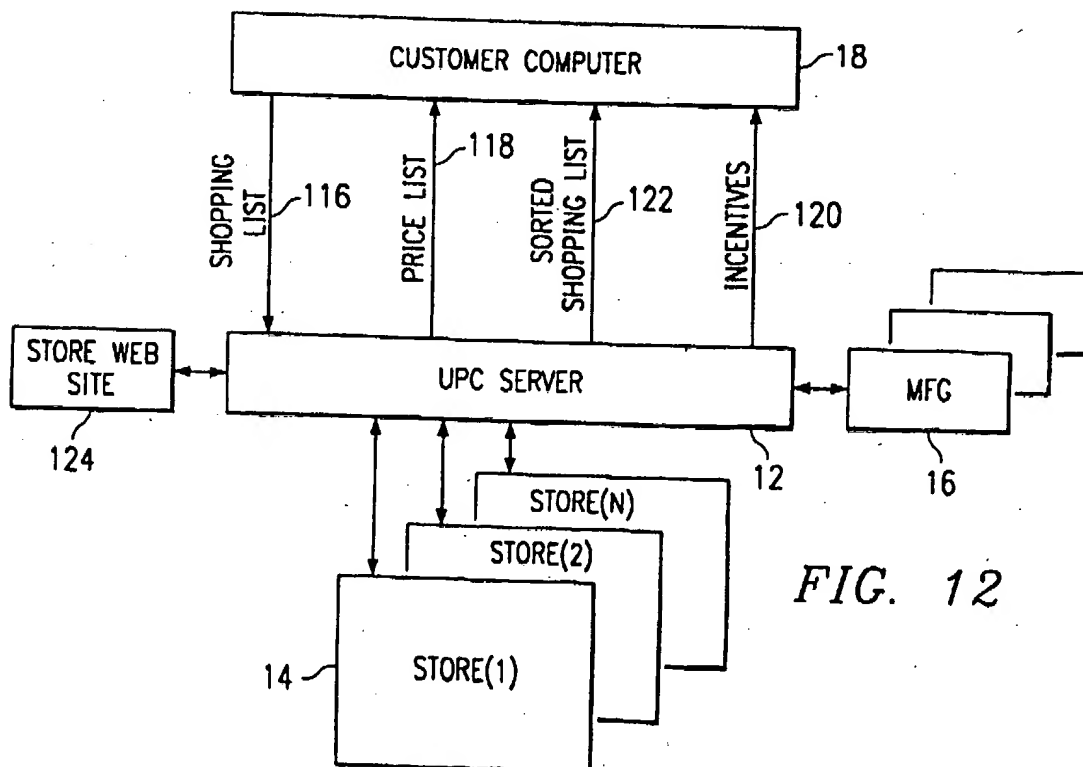STOP 220

FIG. 8C

FIG. 9

FIG. 10

FIG. 11

FIG. 12

METHOD AND SYSTEM FOR GENERATING INCENTIVES BASED ON SUBSTANTIALLY REAL-TIME PRODUCT PURCHASE INFORMATION

RELATED APPLICATION

This application claims benefit under 35 U.S.C. Section 120 of the filing date of U.S. patent application Ser. No. 09/354,263 and is a continuation entitled Point-of-Sale Server and Method, to Deaton et al., having a filing date of Jul. 15, 1999, pending.

This application is also a continuation-in-part of U.S. application Ser. No. 08/820,020, filed Mar. 12, 1997, and entitled "Method and System for Selective Incentive Point-Of-Sale Marketing in Response to Customer Shopping Histories," now pending, which is a continuation of U.S. application Ser. No. 08/457,300, and entitled "Method And System For Selective Incentive Point-of-Sale Marketing in Response to Customer Shopping Histories," filed Jun. 1, 1995, now U.S. Pat. No. 5,687,322, which is a continuation of U.S. application Ser. No. 08/139,983, filed Oct. 20, 1993, and entitled "Method and System for Selective Incentive Point-of-Sale Marketing in Response to Customer Shopping Histories," now abandoned, which is a continuation-in-part of U.S. application Ser. No. 08/096,921, filed Jul. 23, 1993, and entitled "Method and System for Selective Incentive Point-of-Sale Marketing In Response to Customer Shopping Histories," now abandoned, which is a continuation-in-part of U.S. application Ser. No. 08/063,413, filed May 17, 1993, and entitled "Method and System for Building a Database for Use With Selective Incentive Marketing in Response to Customer Shopping Histories," now U.S. Pat. No. 5,621, 812, which is a continuation of U.S. application Ser. No. 07/886,383, filed May 19, 1992, and entitled "Method and System for Building a Database for Use with Selective Incentive Marketing in Response to Customer Shopping Histories," now abandoned.

TECHNICAL FIELD OF THE INVENTION

This invention relates generally to marketing and more particularly to a method and system for generating incentives in response to substantially real-time product purchase information.

BACKGROUND OF THE INVENTION

Market surveys and research provide a manufacturer with information that it may use to respond to changing market conditions. For example, surveys may be conducted which ask consumers whether they favor a particular product over another. In addition, the actual past sales of a manufacturer's product may be compiled and analyzed.

Although some product information is available from these techniques, relying on conventional techniques for assessing one's place in the market may provide less than satisfactory results. For example, by the time market research informs a manufacturer that his product is under performing in a particular market, the manufacturer may not have time to appropriately respond. Furthermore, temporary market conditions may affect the purchase of a particular manufacturer's product or its competitor's products, and these temporary conditions may no longer be applicable by the time conventional market research analysis is completed.

U.S. Pat. No. 4,972,504, entitled "Marketing Research System and Method for Obtaining Retail Data on a Real-Time Basis" to James N. Darrel, Jr., is exemplary of prior

retail store marketing systems. The patent describes a system that stores retail data on a real-time basis and subsequently provides information remotely. The described system does not, however, communicate the data to a remote location, on a substantially real-time basis, allowing manufacturers or other clients to respond to market conditions rapidly; nor does the described system enable rapid response back to the point-of-sale to vary marketing parameters.

SUMMARY OF THE INVENTION

Accordingly, a need has arisen for an method and system for generating incentives in response to substantially real-time product purchase information that addresses shortcomings of prior methods and systems.

According to one embodiment of the invention, a method for use in marketing includes receiving at a remote location through the Internet, substantially real-time a product purchase information from a retail store in conjunction with an identification code of a customer purchasing the products at a point-of-sale. The method also includes generating at the remote location an incentive to be communicated to the identified customer and initiating communication or data relative to the incentive to the identified customer at the point-of-sale.

According to another embodiment of the invention, a method includes receiving at a remote computer substantially real-time product purchase information from a retail store in conjunction with an identification code of a customer purchasing the products in a current transaction. The remote computer is located remote from the retail store. The method also includes generating by the remote computer an incentive to be communicated to the identified customer and initiating communication of the generated incentive from the remote computer to the retail store in a time period such that the customer receives the incentive prior to leaving the retail store.

Embodiments of the invention provide numerous technical advantages. For example, in one embodiment of the invention, access is provided to real-time product purchase information. This real-time access allows a party, such as a manufacturer, to respond appropriately to market condition. For example, a manufacturer may provide an incentive to customers, such as redeemable coupons, on a real-time basis. Such an ability to receive substantially real-time data also allows a manufacturer to market its products to purchasers of competing products.

Other technical advantages are readily apparent to one skilled in the art from the following figures, descriptions and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of embodiments of the invention and the advantages thereof, reference is now made to the following descriptions taken in connection with the accompanying drawings in which:

FIG. 1 is a block diagram of a system for providing point-of-sale information to a manufacturer;

FIG. 2A is a block diagram of a store showing details of a portion of the system of FIG. 1 for providing information from the point-of-sale to a manufacturer;

FIG. 2B is a block diagram of a store showing alternative details of a portion of the system of FIG. 1 for providing point-of-sale information to a manufacturer;

FIG. 2C is a block diagram of a store showing alternative details of a portion of the system of FIG. 1 for providing point-of-sale information to a manufacturer;

FIG. 2D is a block diagram of a store showing alternative details of a portion of the system of FIG. 1 for providing point-of-sale information to a manufacturer;

FIG. 2E is a block diagram of an example manufacturer computer for use in the system of FIG. 1;

FIG. 3 is a block diagram of the points-of-sale illustrated in FIGS. 2A, 2B, and 2C showing additional details of one embodiment of a point-of-sale;

FIG. 4A is a block diagram of the UPC server illustrated in FIG. 1;

FIG. 4B is a block diagram of one embodiment of the kiosk of FIG. 2D;

FIG. 5 is a flow chart illustrating a summary of steps performed in conjunction with the system of FIG. 1 to allow a plurality of manufacturers to market their products to customers;

FIG. 6A is a block diagram illustrating an example server of the system of FIG. 1, showing units for receiving information, filtering that information, and distributing the filtered information to appropriate manufacturers;

FIG. 6B is a block diagram of an alternative embodiment of the UPC server of FIG. 1 for use in the system of FIG. 1;

FIG. 6C is a flow chart illustrating a method for generating market data based on point-of-sale information received by the UPC server of FIG. 1;

FIG. 6D is a flow chart illustrating an alternative method for generating market data based on point-of-sale information received by the UPC server of FIG. 1;

FIG. 6E is a flow chart illustrating a method for accessing point-of-sale information from the UPC server of FIG. 1;

FIG. 7 is a flow chart illustrating automatic response by a manufacturer in response to the meeting of certain thresholds relating to the manufacturer's products;

FIG. 8A is a block diagram of an example UPC server containing circuitry and/or software operable to concentrate e-mails provided by a plurality of manufacturers for receipt by a customer of a store;

FIG. 8B is a flow chart illustrating example portions of a method for compiling a plurality of incentives into a single incentive for communication to a customer;

FIG. 8C is a flow chart illustrating the generation of a consolidated e-mail containing a plurality of incentives based upon criteria specified by a manufacturer;

FIG. 9 is a block diagram illustrating the use of a UPC server in facilitating coupon redemption validation and electronic crediting;

FIG. 10 is a block diagram showing an additional embodiment of the invention in which a UPC server facilitates electronic settlement of credit and debits between a store and a manufacturer;

FIG. 11 is a block diagram of a system for remotely effecting a product price change in a retail store; and

FIG. 12 illustrates a block diagram of a portion of the system of FIG. 1, showing the exchange of communication between a customer computer and a UPC server.

DETAILED DESCRIPTION OF THE INVENTION

Embodiments of the invention and their advantages are best understood by referring to FIGS. 1 through 12 of the drawings, like numerals being used for like and corresponding parts of the various drawings.

FIG. 1 is a block diagram of a system 10 for providing point-of-sale information to a manufacturer 16. System 10 includes a UPC server 12 connected to one or more stores 14 by a communication link 24. System 10 also includes one or more manufacturers 16 connected to UPC server by communication link 26. In addition to manufacturers 16, vendors 20 and wholesalers 22 may also be connected to UPC server 12 by communications links 32 and 30, respectively. Vendors 20, wholesalers 22, manufacturers 16, retailers 14, or any other entity that subscribes to the services offered by UPC server 12 may be referred to herein as clients. Each client may utilize a computer analogous to the computer illustrated in FIG. 2E to effect their various functions described below. System 10 also includes a customer computer 18 for accessing UPC server 12 via communication link 28. According to one embodiment of the invention, communications links 24, 26, 30, and 32 utilize the Internet.

According to the teachings of the invention, point-of-sale information obtained at store 14 is communicated on a substantially real-time basis to UPC server 12. Such point-of-sale information may include UPC codes for purchased products, UPC codes for redeemed coupons, prices of purchased products, other suitable identifications of purchased products, and other suitable data obtained at the point-of-sale, including codes not currently used. Additional point-of-sale information may include a store identification such as an Internet address, the register or lane number, and additional data such as lines of print sent to the receipt tape, smart card contents, customer identification numbers and receipt lines including item description, quantity, and price, and receipt total. The entire contents of a customer's smart card may also be provided to UPC server 12. In addition, payment instrument data such as credit card number, check number, and debit card number may be transferred. Such numbers may be used as unique customer identification codes for identifying particular customers. The identification of particular customers allows determining what products a particular customer purchases, which may be used in marketing.

The communicated information received by UPC server 12 is then made available on a substantially real-time basis to manufacturers 16, vendors 20, wholesalers 22, or other appropriate clients, including stores 14. By providing point-of-sale information on a substantially real-time basis, manufacturers 16, vendors 20, and wholesalers 22 may respond to the purchase or non-purchase of goods or services associated, respectively, with manufacturers 16, vendors 20, wholesalers 22 and stores 14. For example, a manufacturer 16 may receive point-of-sale information indicating a market share far below its normal market share. In such a case, manufacturer 16 may instantly lower prices on its goods to be more competitive.

Furthermore, a manufacturer 16 or other client may offer, on an individualized basis, incentives to a customer of store 14 based upon the customers past purchasing history, purchases made in a current transaction, a combination of these purchases, or regardless of the purchases of the customer. According to one embodiment, by providing point-of-sale information on a substantially real-time basis to, for example, manufacturer 16, individualized customer incentives may be provided by the manufacturer that relate to the recent purchase, or nonpurchase, and the associated prices of products from a particular store or group of stores. Although particular embodiments are described showing a common UPC server shared by a plurality of clients, it should be understood that, in some embodiments, UPC server 12 or a similar apparatus may be located at a particular client, such as manufacturer 16, enabling manufacturer 16 to communicate directly with store 14 without the use of an intermediary.

FIG. 2A is a block diagram of store 14 showing details of a portion of the system of FIG. 1 for providing information from a point-of-sale 36, 38, and 40 to a manufacturer 16. Store 14 includes a plurality of points-of-sale 36, 38, and 40. Each of the points-of-sale is connected to a router 34 via a communication link 42. Router 34 receives information from each of the points-of-sale 36, 38, and 40 on a substantially real-time basis and directs such information, on a substantially real-time basis, over communication link 24 to UPC server 12, illustrated in FIG. 1. Points-of-sale 36, 38, and 40 are described in greater detail below in conjunction with FIG. 3.

FIG. 2B is a block diagram of a store 14 showing alternative details of a portion of system 10 for providing point-of-sale information to manufacturer 16. In this embodiment of store 14, router 34, and incentive controller 44 are replaced with a register controller 46. In this embodiment, register controller 46 operates to provide information to points-of-sale 36, 38, and 40 related to product prices and descriptions and, in addition, transmits point-of-sale information to manufacturers 16 over communication link 24. In addition, register controller 46 receives information from manufacturers 16 for delivery to the customer at the points-of-sale 36, 38, 40. Such an embodiment incorporates the design of register controller 46 for reception of information from manufacturers 14 according to some standard protocol. Alternatively, a register local area network 48 may be tapped into and point-of-sale information may be provided to manufacturers 16 without designing register controller according to a particular protocol.

FIG. 2C is a block diagram of store 14 showing alternative details of a portion of system 10 for providing point-of-sale information to a client, such as manufacturer 16. In this embodiment of store 14, router 34 is replaced with an incentive controller 44. Incentive controller 44 receives point-of-sale information directly from points-of-sale 36, 38, and 40 on a substantially real-time basis over, for example, communication link 42. Incentive controller 44 then transmits the point-of-sale information on a substantially real-time basis over communication link 24 to UPC server 12. Alternatively, incentive controller 44 is associated with points-of-sale 36, 38, 40, but store 14 communicates with UPC server 12 through other means.

Whether or not connected to UPC server 12, incentive controller 44 may provide incentives, such as redeemable coupons or a written notification of a future product discount or advertising message, to customers at points of sale 36, 38, 40, recommend such incentives to manufacturer 16, or process incentives generated by manufacturer 16. Incentive controller 44 may also be used in validating product purchases in conjunction with products offered at a discount or for products for which coupons are redeemed. Incentive controller 44 may generate incentives based upon a customer's past purchasing history, a customer's present purchases, a combination of these two, or other suitable techniques.

Exemplary methodology for generating incentives by incentive controller 44 is described in U.S. Pat. No. 5,687,322 to Deaton et al., which is incorporated herein by reference for all purposes and in U.S. patent application Ser. No. 09/320,114 to Deaton et al., entitled Method and System for Providing Customer Incentives Utilizing Dual Customer Identifications, which is incorporated herein by reference for all purposes. Incentive controller 44 may be formed integral with a register controller used by store 14 (not explicitly shown in FIG. 2C) that controls registers associated with each point-of-sale. For example, the register controller may provide each individual register information associating each bar code with a description and associated price.

FIG. 2D is a block diagram of store 14 showing alternative details of a portion of system 10 for providing point-of-sale information to a client, such as manufacturer 16. In this embodiment, store 14 includes a kiosk 47. Kiosk 47 allows a customer of store 14 to view and select incentives available to the customer. Details of one example of kiosk 47 are described in greater detail in conjunction with FIG. 4B. In the illustrated embodiment, kiosk 47 is connected to UPC server 12 by communication link 24; however, a kiosk may be utilized that is either not connected to UPC server 12 or that is indirectly connected to UPC server 12 through another element at store 14. Register controller 46 and incentive controller 44 are also illustrated in FIG. 2D. Register controller 46 is connected to kiosk 47 by a communication link 49. Incentive controller 44 is connected to kiosk 47 by communication link 39.

According to the teachings of the invention, point-of-sale information is communicated through communication link 24 to UPC server 12. Such information is then communicated to a manufacturer 16. In response to receiving information from the point-of-sale, manufacturer 16 may communicate, through UPC server 12, incentives to be communicated to a customer of store 14. Kiosk 47 provides a way for the incentive to be communicated to the customer.

Kiosk 47 receives an incentive over communication link 24. A customer entering store 14 may proceed to kiosk 47 to determine what incentives are available. Kiosk 47 may then provide the customer a printed redeemable coupon or communicate a future electronic discount. In the case of a printed redeemable coupon, a coupon is distributed by kiosk 47 that may be redeemed at point-of-sale 36, 38, 40. In the case of a future electronic discount, the customer is identified at kiosk 47 by, for example, a customer loyalty card, a smart card, a credit card, a debit card, or other method of identification. After identification, an incentive available to the customer is communicated to the customer by, for example, printing of the incentive on a viewable screen or on a printer. In addition to communicating the future electronic discount to the customer, kiosk 47 communicates the future electronic discount to incentive controller 44 for application when the customer is identified at point-of-sale 36, 38, 40 and the customer purchases the product associated with the future electronic discount. As an alternative, kiosk 47 may communicate incentives available to all customers, as opposed to particularly identified customers, in which case communication of individual electronic discounts to incentive controller 44 is unnecessary. Furthermore, kiosk 47 may issue redeemable coupons to identified or unidentified customers.

It should be understood that although a particular configuration of store 14 is illustrated in FIG. 2D, other configurations may be utilized, including combining register controller 46 and incentive controller 44 into a single integrated device, combining incentive controller 44 and kiosk 47 into a single integrated device, and eliminating redundant communication links. For example, according to one embodiment, kiosk 47 and register controller 46 may be connected to UPC server 12 solely through incentive controller 44, and register controller 46 may be connected to kiosk 47 solely through incentive controller 44.

FIG. 2E is a block diagram of one example of a manufacturer computer 53 that may be used to perform functions of manufacturer 16. In the example illustrated in FIG. 2E, manufacturer computer 53 includes a processor 55 associated with a storage device 57 and a memory device 59. Processor 55 may also be associated with an input device 61 and an output device 63. Memory 59 includes manufacturer software 65. Manufacturer software 65 may be executed by

processor 55 while stored in memory 59. Alternatively, manufacturer software may be executed from storage area 57. Manufacturer software 65 contains software coding sufficient to execute the functions performed by either manufacturer 16 or manufacturer computer 53 described below. Manufacturer computer 53 may also be implemented in various other forms, including the use of ASICs or other hardware configurations.

FIG. 3 is a block diagram of particular examples of points-of-sale 36, 38, and 40 illustrated in FIGS. 2A, 2B, and 2C showing additional details of one embodiment of a point-of-sale 36. Although point-of-sale 36 includes a particular collection of items, "point-of-sale" as used herein below without a reference numeral refers to the general location at which products are purchased. Point-of-sale 36 includes an electronic cash register 50. Electronic cash register 50 receives a signal indicative of the bar code of an item scanned by a scanner 52. A scanned item may include a product for purchase, a coupon being redeemed, or other suitable item bearing a scannable code. Based upon the signal indicative of the UPC bar code, a price is associated with the scanned item as well as a description of the scanned item. The price of the item and the description are printed on a printer 54. The price and description of an item are associated with a scanned bar code through communication of register 50 with a register controller (not explicitly controlled). In the case of a single point-of-sale 36, register 50 may itself maintain a database associating bar codes with related price and product descriptions.

Between scanner 52 and register 50 is a wedge 56. Wedge 56 intercepts information from scanner 52 and provides it along communication link 42B to router 34. A wedge allows a single signal to be split into multiple signals for receipt by multiple devices or, either alternatively or in combination, allows a signal to be inserted onto an existing communication link. An example of wedge 56 is an RS-232 Y-cable used to enable two devices, for example computers, to share a single serial device; however, other suitable wedges may be utilized. Therefore, by providing a signal indicative of the bar code of a scanned item, wedge 56 allows generation of information describing products and coupons scanned at the point-of-sale. Similarly, a wedge 58 disposed between register 50 and printer 54 receives information from register 50, allowing transmission of information along communication link 42A describing price and product information.

In addition to providing point-of-sale information, wedges 56 and 58 may receive information generated by manufacturers 16 for providing to a customer at point-of-sale 36, such as customer incentives. For example, a manufacturer may offer a customer a coupon for a product in response to the customer's purchase of particular products. Upon receiving information describing the customer's purchase, manufacturer 16 may provide a signal through point-of-sale server 12 directed for a customer utilizing point-of-sale 36. Communication link 42A may carry such a signal to wedge 58 and it may be printed on printer 54, informing the customer of the incentive. Alternatively, a separate printer or a monitor at the point-of-sale may be used to communicate incentives to customers.

A smart card reader 51 may be connected to communication link 42. Smart card reader 51 receives a smart card storing an identification of a customer. The smart card also includes a memory for storing awards. Thus, through smart card reader 51, awards may be generated and applied at point-of-sale 36, 38, 40.

FIG. 4A is a block diagram of one example of UPC server 12. UPC server 12 may be implemented in many forms. In

the example illustrated in FIG. 4A, UPC server 12 includes a processor 60 associated with a storage device 62 and a memory device 64. Processor 60 may also be associated with an input device 66 and an output device 68. Memory 64 includes UPC server software 70. UPC server software 70 may be executed by processor 60 while stored in memory 64. Alternatively, UPC server software may be executed from storage area 62. UPC server software 70 contains software coding sufficient to execute functions performed by UPC server 12 described in greater detail below. UPC server 12 may also be implemented in various other forms, including the use of ASICs or other hardware configurations.

In addition to providing substantially real-time product purchase information to manufacturer 16, vendor 20, wholesaler 22, and customer computer 18, UPC server 12 may generate incentives for application at store 14. These incentives may be generated on behalf of manufacturer 16, vendor 20, wholesaler 22, store 14, or for other reasons. Thus, any of the plurality of incentives described herein below as being generated by any particular client or store may also be generated by UPC server 12 on behalf of the client or store or on behalf of the operator of UPC server 12.

FIG. 4B is a block diagram illustrating one embodiment of kiosk 47. In the illustrated embodiment kiosk 47 includes a card reader 140, a display 142, a printer 144, and a keyboard 146; however, other suitable kiosks may be used. For example, kiosk 47 may include a separate smart card reader for receiving a smart card. Display 142 may communicate incentives and provide additional information to a customer. Display 142 may be a touch-sensitive screen for receiving information from the customer, such as information related to which incentives the customer desires. Keypad 146 also allows a customer to provide information to kiosk 47. For example, a customer may provide a name, address, telephone number, or other suitable indication of the customer's identity. Card reader 140 may also be used to identify a customer by receipt of a customer card, credit card, debit card, or other instrument from which the customer's identity may be determined. In one embodiment, card reader 140 is operable to read bar codes printed on a customer card. Printer 144 may be used in conjunction with display 142 to generate a shopping list of items for which the customer will receive discounts when the items are purchased. Kiosk 47 may be used in conjunction with distribution of incentives as described above in conjunction with FIG. 2D. Other identification systems may also be utilized, such as appropriate systems described in U.S. patent application Ser. No. 09/320,114, identified above, including fingerprint identification.

FIG. 5 is a flow chart illustrating a summary of steps performed in conjunction with system 10 to allow a manufacturer 16 to market its products to customers of store 14. Such steps may be performed by manufacturer computer 53 in conjunction with UPC server 12. The process begins at a step 73. At a step 74, manufacturer 16 receives point-of-sale purchase information from UPC server 12. Point-of-sale purchase information is provided to UPC server 12 from store 14 through communication link 24. According to one embodiment, communication link 24 provides Internet access to store 14 and therefore, connects UPC server 12 to store 14 via the Internet. According to the embodiment illustrated in FIG. 2A, such point-of-sale information is provided from individual points of sale 36, 38, 40 to a router 34 for transmission along communication link 24. In the embodiment illustrated in FIG. 2B, such point-of-sale information is provided by points of sale 36, 38, and 40 to an incentive controller 44, for communication over communi-

cation link 24 to point-of-sale server 12. In the embodiment illustrated in FIG. 2C, such point-of-sale information is provided by points of sale 36, 38, and 40 to either a register controller 46 for communication over communication link 20 to UPC server 12, or by eavesdropping by UPC server 12 on a register local area network 48 associated with store 14. In each of the above embodiments, according to one example system, each of the points of sale 36, 38 and 40 provide information to respective controllers or to UPC server 12 through the use of wedges, such as wedges 56 and 58. According to another example system, wedges 56, 58 are not utilized and product purchase information is obtained from a register controller, such as register controller 46, incentive controller 44, or from register LAN 48.

After point-of-sale information is received by UPC server 12, point-of-sale information is transmitted on a substantially real-time basis over communication link 26 to manufacturer 16. In the embodiment illustrated in FIGURE a1 communication link 26 is an Internet connection between manufacturers 16 and UPC server 12; however, other suitable connections may be established including satellite links, wireless communications, phone lines, and dedicated lines.

At a step 76, manufacturer 16 may evaluate the point-of-sale information it has obtained from UPC server 12. Evaluation of such information may allow a manufacturer 16 to assess whether its products are selling according to desired parameters. For example, a manufacturer may assess the market share of a particular product in a particular geographic region.

After evaluating the position of its products at step 76, a manufacturer may intercede at step 78 to attempt to effect increased purchases of the manufacturer's products at step 78. Such intercession may take a variety of forms. For example, manufacturer 16 can initiate offers to customers by e-mail, can initiate offers through the use of kiosks conventionally located in stores such as retail stores, can initiate offers for immediate communication at the point-of-sale, can communicate notification of a future electronic discount at the point-of-sale, and manufacturer 16 may take other applicable action. Additionally, manufacturer 16 may communicate an incentive through UPC server 12 for receipt by a customer of retail store 14. Alternatively, the above-described functionality may also be implemented within UPC server 12 on behalf of manufacturer 16. Because point-of-sale information is communicated on a substantially real-time basis to UPC server 12, incentives may be communicated, if desired, to a customer prior to the customer leaving store 14.

Generation of the above-described incentives may include the methodology described in U.S. Pat. No. 5,687,322 to Deaton et al, including generating incentives based on the purchases of a customer, including examination of the products purchased by the customer in past and/or present transactions or the customer's economic impact on manufacturer 16, as measured by the volume of purchases by a particular customer. Such volume may be measured by dollar amount or other suitable criteria. Generation of incentives to individual customers may also be performed without reference to the market position of any particular product of a manufacturer 16. In each of these examples, UPC server 12 may act as an intermediary to maintain privacy concerns of particular individuals shopping at store 14. Thus, UPC server 12 can block, or prevent, providing of any of these types of offers to the customer. UPC server 12 may act as an intermediary by maintaining, and not providing to manufacturer 16, information that would allow manufacturer 16

to determine the identity of any individual. For example, e-mail addresses and physical addresses may be maintained only by UPC server 12 and not provided to manufacturers 16.

In addition to providing incentives to the individual customers, a manufacturer 16 may intercede by, in response to assessing its position in the market on a substantially real-time basis, effect a price change in particular products. Such a price change may be effected through traditional techniques or may utilize UPC server 12 to communicate to retail store 14 that the manufacturer 16 is implementing a price reduction. Such price reduction could include an automatic discount on the selling price at store 14, which would be subsidized by manufacturer 16, or may involve a direct discount to the retail store with a subsequent price change in the selling price at the store 14 determined by the operator of store 14.

Furthermore, a manufacturer may communicate incentives to customers independent of the current market position of its products and/or independent of the purchases of a particular customer in a current transaction. Alternatively, UPC server 12 may generate and communicate incentives, such as those described in U.S. Pat. No. 5,687,322, or elsewhere herein, to customers for the benefit of retail store 14, manufacturer 16, or other clients.

Information that may be transmitted to store 14 by UPC server 12 may include electronic discounts, lines of print for the register printer or an auxiliary printer for communication of messages to the customer, information sent back for writing to the customer's smart card to update things such as point totals, purchase profiles, etc.

Demographics may also be introduced to provide real-time purchase data based on national, regional, state, city, neighborhood, and even store levels. Purchases by identified customers may be presented to manufacturers based on, for example, customer's total spending levels; customer's level of spending on that manufacturer's products; customer's level of spending on competitor's products; customer's level of spending on a department, product class, or product family; and customer's level of spending on complimentary or companion products, and other customer data such as size of the household, household income, etc.

The substantially real-time product purchase information may also be utilized by manufacturer computer 53 or UPC server 12 to effect incentives on particular products based on the particular product's price relative to a competitive product. Thus, it can be determined that the price of a particular product exceeds the price of a competitive product and therefore a price reduction may be effected to beat or match the price of the competitive product. By implementing such a system, a customer may be assured that there are no competitive products that are offered at a lower price, and therefore the customer would be induced to loyalty to the particular product and would be alleviated from the burden of having to comparison shop.

This type of price matching or beating could be implemented for all customers or for only particular customers. Such particular customers may include customers that are loyal to a particular brand of product, customers that are loyal to a particular product, or customers that are loyal to a particular manufacturer or store. Furthermore, the particular customers may be selected by customers who have traditionally not been loyal to any particular brand, store, or product but rather may be perceived to frequently comparison shop.

The determination that a price of a particular product exceeds a competitive product may be made on a substan-

tially real-time basis, thus a customer may be assured that it is highly unlikely that it is purchasing a product at a higher price than a competitive product could be purchased at that time. For example, although the present invention contemplates substantially real-time communication, it may be appropriate to market to customers that if any competitive product is sold at a particular retail store, or one of a plurality of retail stores, within the past thirty minutes or hour, that the price of the particular product will be reduced to match or beat the price of the competitive item.

Similarly, UPC server 12 may grant incentives to customers at store 14, such as immediate electronic discounts, that ensure that the price at which a particular product is purchased by the customer is the same or lower than the price at which any other customer has purchased a product within a predetermined time period from the retail store 14 or, alternatively, from a group of retail stores 14. Such pricing may be implemented for particular customers, such as customers who are perceived to be comparison shoppers, or customers who have been determined to be particularly loyal to a store or brand, or other criteria. Loyalty may be measured through the customer's past purchases. Marketing to a customer that his purchases on particular products or all products will be priced at or below the lowest price at which the products have been purchased from a given store may induce loyalty to a particular store. Therefore, although each of the above-described types of clients may find such a process useful, retail store 14 may find such a process particularly desirable.

The flow of information from UPC server 12 to any individual manufacturer 16 or client may be based upon particular information subscribed to by manufacturer 16. For example, a particular manufacturer 16 may wish to receive only information regarding the purchase of the manufacturer's products and the purchase of the manufacturer's competitor's products. Thus, UPC server 12 may perform a filtering function in which only subscribed to data is transmitted to any particular manufacturer 16. Such filtering is described in greater detail below in conjunction with FIGS. 6A through 6E.

FIG. 6A is a block diagram illustrating additional details of one example of UPC server 12 showing units for receiving information, filtering that information, and distributing the filtered information to appropriate manufacturers 16. In the illustrated embodiment, UPC server 12 includes an input port 80 and an output port 82. Input port 80 represents circuitry and any associated software utilized to receive point-of-sale information from store 14 over communication link 24. Thus, although a limited number of stores 14 are illustrated in FIG. 1, input port 80 may be configured to receive point-of-sale information for all stores associated with UPC server 12. The point-of-sale information received by input port 80 is provided to filter 84. Filter 84 contains circuitry and/or software that identifies the type of point-of-sale information and associates that type of point-of-sale information with particular subscribing manufacturers 16. Such information is provided to an output port 82 for transmission to a particular manufacturer 16. By providing filtering capabilities, UPC server 12 alleviates a manufacturer 16 from having to process large amounts of information that is unrelated to the manufacturer's business.

FIG. 6B is a block diagram illustrating one embodiment of a UPC server for filtering product purchase information from one or more retail stores 14 and providing information to clients such as manufacturers 16, vendors 20, and wholesalers 22. In this example, the filtering function of UPC server 12 is implemented using computer software stored in

a memory accessible by a processor. UPC server 12 in FIG. 6B includes processor 60, a storage device 62 coupled to the processor 60, and a memory 64 coupled to the processor. Additionally, an input device 66 coupled to processor 60 and an output device 68 coupled to processor 60 are illustrated. These elements are analogous to respective elements of FIG. 4A having the same reference numeral. In this embodiment, memory 64 stores a filtering software for providing selected product purchase information to a client, as described in greater detail below in conjunction with FIG. 6C.

FIG. 6C is a flow chart illustrating a method for generating market data based on point-of-sale information received by UPC server 12. The method begins at a step 130. At a step 132 Uniform Product Codes for products purchased from retail stores 14 are received by UPC server 12. In this embodiment, the prices of the purchase products are also received by UPC server 12 at step 132. At a step 134 the received Uniform Product Codes are compared to Uniform Product Codes stored in UPC server 12. In one example, the stored Uniform Product Codes may be stored in memory 64 or storage device 62. The stored Uniform Product Codes represent products for which a particular client is interested in receiving product data. These products may include products competitive with products manufactured by the client, products manufactured by the client, products sold by the client, or other suitable products. At a step 136, the number of times a particular product having a UPC is received by server 112 is generated. Thus, the number of times a particular product is purchased over a given period of time may be determined. In this embodiment, the prices for each product associated with a unique Uniform Product Code are determined based upon the received information at step 132. Over a suitable time period, at a step 140, the generated number of incidences of a particular product and the associated price is communicated to the client. The method concludes at step 142.

At a step 180, the received Uniform Product Code is stored in association with a customer identification for future use in examining the customer's purchasing history. For example, the customer's purchasing history may be used as a basis for generating an incentive to the customer.

Thus, a manufacturer, for example, may receive substantially real-time product purchase information for a manufacturer's products or products competitive with the manufacturer's products, which enables the manufacturer to respond rapidly to market conditions. Alternatively, filtering of product purchase information received from retail store 14 may occur directly at the manufacturer level by, either directly receiving product purchase information on a substantially real-time basis from retail store 14, or receiving product purchase information through UPC server 12 from which such filtered data may be determined according to the teachings of the invention.

FIG. 6D is a flow chart illustrating an alternative method for generating market data based on point-of-sale information received by UPC server 12. The method begins at step 170. At a step 172 Uniform Product Codes for products purchased from retail stores 14 and the associated prices for the products are received by UPC server 12. At a step 174, a determination is made of whether the received Uniform Product Code is a Uniform Product Code identifying a particular customer. Uniform Product Codes may be imprinted on a customer identification card. If the Uniform Product Code received at step 172 is in fact an identifier of a particular customer, at a step 176 the customer's record of past purchases is retrieved from storage on UPC server 12. Once the customer's record is retrieved, step 172 continues

with receiving a plurality of Uniform Product Codes and associated price data. After making the determination at step 174, UPC server 12 records and compiles a summary of the activity of individual Uniform Product Codes for presenting products by a plurality of customers at a step 178. Such recordation generates information useful by the manufacturer or seller of each particular product for use in marketing. At a step 180, individual purchases may be stored for each customer to further compile a history of any individual's past purchases. At a step 182, the price at which a particular product was purchased from a particular retail store is updated in storage in UPC server 12. The process repeats at step 182.

Thus, summary information related to the activity of products related to a client may be generated from the product purchase information received by UPC server 12. This summary information may be communicated to the client by electronic mail or by other methods.

FIG. 6D is a flow chart illustrating a method for a manufacturer to receive product purchase information and to effect changes in the market. The method begins at step 190. At a step 192, a client, such as manufacturer 16, accesses UPC server 12. Such access may be through accessing a web site associated with UPC server 12. At a step 194, UPC server retrieves parameter lists for a client indicating a Uniform Product Code list for filtering. Such list may include Uniform Product Codes associated with products for which the client is interested. Such products may include products competitive with the client's products and the client's products. At a step 196, the client may send additional filtering parameters such as time or date ranges, geographical regions, additional Uniform Product Code filtering criteria, or other suitable parameters. At a step 198, UPC server 12 accesses stored data relating to product purchases at retail stores 14 and provides, to the client, information specified by the filtering parameters provided by the client at steps 194 and 196. The information may be provided by an electronic mail message, by posting the information on a web site associated with UPC server 12, or by other suitable techniques. At a step 200, the client analyzes the data to determine if marketing action is needed. Such analysis may be performed, for example, by manufacturer computer 53. At a step 102, a decision is made by the client of whether action is needed. If action is needed, at a step 204 the client sends a response to UPC server 12 to effect remedial action. Such action may include a price change, an incentive communicated to kiosk 47, an incentive communicated to the point-of-sale, an electronic mail message including an incentive directed to a customer, or other suitable action. If no action is needed, the method concludes at step 206.

FIG. 7 is a flow chart illustrating the automatic response by a manufacturer 16 in response to the meeting of certain thresholds relating to the manufacturer's products. The process begins at step 85. At a step 86, information is received by manufacturer 16 as described above relating to a particular product. At a step 88, it is determined what criteria will be applied to assessing the position of the manufacturer's products. For example, the market share of the particular product may be the criteria used. As another example, the volume of sales of a particular product may be used as a criteria. As a third example, the relative pricing of the particular product in comparison to its competitor may be used as a criteria. Furthermore, changes in each of these criteria over a particular period of time may be used as a criteria. For simplicity of description, a market share criteria is adopted for the remainder of this example. A market share

of 25% is considered desirable and a market share of less than 25% is considered undesirable.

At a step 90 a determination is made of whether the criteria level is exceeded. In this example, if the market share of the particular product manufactured by manufacturer 16 has a market share greater than 25%, a manufacturer 16 is satisfied and continues to receive information to remain abreast of the success of the manufacturer's product. If the market share is less than 25% then intercession is required at step 92, and manufacturer 16 utilizes one of many available options for attempting to increase the criteria level, which in this case is market share. By having the opportunity to receive information on a substantially real-time basis regarding product pricing and purchases, manufacturers 16 may intercede in a timely fashion in a manner not otherwise available. The above described functions may be performed by manufacturer computer 53 or, alternatively, UPC server 12 on behalf of manufacturer 16. It should be understood that wholesaler 22, vendor 20, and store 14 may also utilize such a method to address their desired marketing objectives.

According to another aspect of the invention, UPC server 12 operates to concentrate messages received from manufacturer 16 for delivery to customers of store 14. In order to effect the purchase of a manufacturer's product, manufacturer 16 may desire to provide incentives to customers of store 14, such as coupons or e-mails. According to one embodiment, UPC server 12 includes circuitry and/or software 70 that operates to concentrate promotional messages into a common e-mail so that customers of store 14 are not inundated with a plurality of undesired promotional e-mails. According to this embodiment, manufacturer 16 transmits a promotional e-mail to UPC server 12 for receipt by a particular customer or to customers who meet a particular criteria, such as, for example, customers who purchase a particular product or group of products, number of products, dollar amount of products, or other criteria. Manufacturer 16 identifies the customer of store 14 by some sort of identification number. UPC server 12 also receives a plurality of other promotional messages for receipt by the same customer of store 14, but from different manufacturers 16. UPC server 16 consolidates these e-mails into a common e-mail that is sent to an e-mail address known by UPC server 12 but not by manufacturers 16. This process helps maintain the privacy of the customer of store 14 and also reduces the number of e-mails received by the customer.

FIG. 8A is a block diagram of an example UPC server 12 containing circuitry and/or software operable to concentrate e-mails provided by a plurality of manufacturers 16 for receipt by a customer of a store 14. In this embodiment, UPC server 12 includes an input port system 94 for receiving a plurality of e-mails from a plurality of manufacturers 16. These e-mails are provided to a concentrator system 96. Concentrator system 96 consolidates a plurality of e-mails destined for a common user into a common e-mail message. The e-mails may have been originally directed to a particular customer by manufacturers 16 by, for example, use of a customer identification number. Alternatively, manufacturers 16 may provide an e-mail including an incentive in combination with criteria, either in the e-mail or otherwise communicated, for whom receipt of the e-mail is intended. Such criteria may include the purchase or non-purchase of a particular product or group of products, volume of purchase, dollar amount of purchases, or other suitable criteria. In response, concentration system 96 determines the particular customers who should receive the e-mail based on the specified criteria. This common e-mail message is provided to output port system 98, which in turn transmits the

common e-mail to a customer of store 14. Such transmission may be effected on a periodic basis, such as daily, or other suitable time period. This e-mail message may be transmitted to customer computer 18. Alternatively, data relative to the concentrated group of incentives, may be transmitted to a customer at the point-of-sale, such as to a customer receipt, to the customer at kiosk 47, or to any other suitable location. In this manner, UPC server 12 also operates to facilitate transmission of promotional messages to the customer, in addition to providing a means of communication of point-of-sale data to a manufacturer on a substantially real-time basis. The UPC server 12 of FIG. 8A may be implemented using a combination of hardware and software similar to that illustrated in FIGS. 4A and 6B.

FIG. 8B is a flow chart illustrating a method for concentrating a plurality of incentives into a common message for receipt by a customer. The method begins at step 150. At a step 152 a plurality of incentives are received at UPC server 12. In this embodiment, a plurality of electronic mail messages are received with an identifier indicating a particular customer for whom receipt of the respective incentive is intended. The identification may be an identification number that may be matched to the customer only by UPC server 12; however, other suitable identification numbers may be used. At a step 154 all electronic mail messages having a common identifier are compiled into a single document. At a step 156 UPC server 12 initiates communication of the single document to each respective customer. Communication to the customer of the single document may include transmitting an electronic mail message to customer computer 18 or transmitting data to the customer at the point-of-sale, including printing a message on a customer receipt at the point-of-sale. The method concludes at step 160.

The plurality of incentives may be received by UPC server 12 from manufacturers 16, vendors 20, wholesalers 22, retailers 14, or other suitable party. The incentives may be generated according to any of the plurality of techniques described above, or other suitable techniques. For example, a customer may provide a shopping list to UPC server 12 and in response at least one item on the shopping list is transmitted to, for example, manufacturer 16. In response, manufacturer 16 generates an incentive for receipt by the customer. The incentive may provide a discount on the item, a discount on a item competitive with the item, or other suitable discounts.

In this manner, a customer may receive a plurality of incentives without being inundated with a voluminous number of messages. Furthermore, if desired, such incentives may be made on an anonymous basis by use of customer identifiers known only to UPC server 12.

FIG. 8C is a flow chart illustrating an alternative embodiment for concentrating a plurality of incentives into a common message for receipt by a customer. The method begins at a step 210. At a step 212, UPC server 12 receives a plurality of parameters along with one or more electronic mail messages associated with the parameters. The parameters are provided by clients, such as manufacturers 16, vendors 20, or wholesalers 22. The parameters may specify, as described above, criteria from which a determination may be made whether a particular incentive contained in an e-mail is directed to a customer. For example, the parameters may include the purchase of a particular product, the purchase of a group of products, the nonpurchase of a particular product or group of products, a customer meeting a predetermined purchasing history criteria, such as volume of purchases, or dollar amount of purchases. The parameters may also include additional suitable criteria, such as the criteria specified in U.S. Pat. No. 5,687,322 to Deaton, et al.

At a step 214, UPC server 12 analyzes the product purchase information received from a plurality of stores 14 over communication link 24 to determine whether an e-mail message should be sent to a particular customer based upon the parameters received at step 212. At a step 216, all applicable electronic mail messages destined for a particular customer are consolidated into a single concise document for communication to the customer. The incentives included in the consolidated document may be include incentives that were directed specifically to the particular customers as well as the incentives determined at step 214 from the parameters at step 212. At a step 218, an electronic mail message is sent to customer computer 18. Alternatively, the electronic mail message may be converted into data of suitable form that may transmitted to the customer at other locations. For example, data relative to the incentives included in the consolidated electronic mail message may be communicated to the customer at the point-of-sale by printing the incentives on a customer receipt or by communicating the incentives to kiosk 47. Other suitable forms of communication of the consolidated electronic mail message may also be used. The method concludes at step 220.

According to another aspect of the invention, UPC server includes circuitry and/or software for facilitating both coupon redemption validation and electronic settlement mechanisms for incentives offered by the manufacturer, as illustrated in FIG. 9.

FIG. 9 is a block diagram illustrating the use of UPC server in facilitating coupon redemption validation and electronic crediting. Traditionally, coupons are marked with a Uniform Product Code and thus, bar codes scanned from a coupon may also be provided to manufacturer 16 by UPC server 12 as indicated by arrow 102. Thus, manufacturer 16 is able to receive both the product Uniform Product Code and the Uniform Product Code associated with a coupon for that product. Therefore, the manufacturer may verify the proper redemption of a manufacturer coupon and provide an appropriate credit to store 14. Such redemption verification includes verifying that the product associated with the coupon is actually purchased. Verification may also include verifying the price at which the product was purchased. In addition, for incentives associated with a particular customer, the identity of the person receiving a discount may be verified. Manufacturer computer 53 may be used to perform these functions. Alternatively, UPC server 12 may include circuitry and/or software 70 for also performing this validation and for providing manufacturer 16 a summary of the number and amount of coupons redeemed for the particular manufacturer. In either event, once verified manufacturer 16 may effect a credit, demonstrated by arrow 104, directed to store 14 in the amount of the redeemed coupons. The credit may be communicated to store 14 through UPC server 12 or directly to store 14. Such communication may utilize an electronic mail message or other suitable mechanism. Because product information may be received on a substantially real-time basis, coupon redemption validation may also be performed rapidly.

FIG. 10 is a block diagram showing an additional embodiment of the invention in which UPC server 12 facilitates electronic settlement of credit and debits between store 14 and manufacturer 16. According to one aspect of the invention, manufacturer 16 may respond in a substantially real-time basis to market developments to attempt to adjust the relative market share of a manufacturer's product, or attempt to adjust to other market conditions to attempt to generate desirable product sales of the manufacturer's products.

One adjustment made by manufacturer 16 is the downward adjustment of price at which the manufacturer's product will be sold. Manufacturer 16 may effect such a downward adjustment in price by specifying to store 14 the price at which the store should sell the product and by granting a credit to the store 14 for each such product purchased. Such a method for adjusting to market conditions may require a settlement mechanism between manufacturer 16 and store 14 to account for the lower price offered by store 14 at the request of manufacturer 16. UPC server 12 therefore, may receive from store 14 Uniform Product Codes and the price information that is also transmitted to manufacturer 16. Manufacturer 16 may then be able to assess the number of its products sold at a discount and the amount of discount owed store 14. In response, manufacturer 16 may provide a credit notification through UPC server 12 for transmission to store 14, thus effecting electronic settlement of temporary price reductions offered by a manufacturer and implemented by a store. Such electronic settlement may also be utilized to compensate store 14 for redeemed coupons or application of other discounts effected at the initiative of manufacturer 16.

It should be understood that, in some embodiments, the above-described reconciliation process may be implemented through direct coupling of store 14 to manufacturer 16 without the use of UPC server 12 as an intermediary.

FIG. 11 is a block diagram of a system 106 for remotely effecting a product price change in a retail store. System 106 includes a tag controller 108 connected to a plurality of electronic tags 112 via a communication link 114. According to one embodiment, communication link 114 comprises an FM transmitter for transmitting to electronic tags 112 the price to be displayed on each individual electronic tag 112. According to another embodiment, communication link 114 comprises a suitable conductive transmission medium, such as electrical wires. The system also includes a UPC server 12 connected to tag controller 110 via a communication link 110. According to one embodiment, tag controller 108 is located in a store, such as store 14, that is connected to UPC server 12. According to the same embodiment, communication link 110 utilizes the Internet. Communication link 110 allows UPC server 12 to provide an updated price for an item, such as the manufacturer's product, in response to the: determination by the manufacturer based on substantially real-time data that it would be desirable to effect a change in price of the manufacturer's product. UPC server 12 communicates a signal indicating such a change to tag controller 108. Tag controller then provides such a signal along communication link 114 to a particular electronic tag 112 associated with the manufacturer product. Electronic tags 112 may be positioned, on a shelf near the location of the product. UPC server 12 may also communicate the price change to store 14 so that store 14 may maintain for its own records the adjusted price and verify any credits provided by manufacturer 16.

Therefore, manufacturer 16 may remotely effect a price change in one of its products in response to the analysis of data regarding the sale of its products or its competitors products. In addition, tag controller 108 may also provide price information to UPC server 12 so that the price information received from points of sale 36, 38 and 40 may be verified against the prices displayed by the electronic tags 112 in store 14. Further, UPC server 12 may communicate the price changes to register controller 46 to maintain consistency between electronic tags 112 and register controller 46. Alternatively, register controller 44 may communicate directly with register controller 44, with register controller 44 providing the price change to tag controller 108.

In addition to providing product purchase and price information at the point-of-sale to the manufacturer, UPC server 12 also allows access to customers of product purchase and pricing information.

FIG. 12 illustrates a block diagram of a portion of system 10, showing the exchange of communication between customer computer 18 and UPC server 12. In this example, a user of customer computer 18 submits a shopping list to UPC server 12, as designated by arrow 116. In response, UPC server 12 submits a price list having the price of each item at each store 14 at which the user might shop, as designated by arrow 118. Therefore, by accessing UPC server 12, customers may determine at which store to shop for all items or for particular items. As an example, a customer selects one or more stores to price items and enters items to be priced. The customer's purchase history is used to aid the customer in selecting items for pricing. As items are presented for pricing, deals can optionally be presented to the customer that are based on items being priced. For example, Brand A paper towels is presented in the customer's list for pricing, so a deal that is stored for Brand B paper towels is presented to the customer. The prices for the customer's items are accessed from each store's item list and presented to the customer in total. One or more of the stores may have discount rates stored based on a customer's spending level. For example, the customer spends an average of $135.00 per week at Store A, and Store A has stored in its pricing table that any customer spending on average $75.00 or more per week would be presented with an incentive of 5% on purchases totaling $50.00 to $75.00 and 8% on purchase totals that exceed $75.00. This discount would be factored in and presented to the customer. The customer would then print out the shopping list stored by retail aisle for that particular store to facilitate shopping efficiency. Alternatively, the list could be processed for home delivery.

Further, discounts may be electronically stored on UPC server 12 or a web site 124 associated with store 14 for subsequent access by the customer. The electronic discounts may also communicate to store 14 for application when the customer is identified purchasing the product associated with the discount. Alternatively, the electronic discounts may be made available to customer in a printed format by allowing customer computer to download a redeemable coupon stored on either a store web site 124 or UPC server 12. The customer may then print the redeemable coupon on a printer associated with customer computer 18. Such a coupon may include a unique identification number that is available at store 14 to prevent unlawful duplication of redeemable coupons. Once a coupon having a unique identification number is redeemed, no other coupons having that same number will be redeemed. Alternatively, a manufacturer may communicate product discounts to store web site 124, through UPC server 12, for viewing by customers.

Furthermore, when shopping list 116 is submitted, UPC server may offer to one or more manufacturers 16 the opportunity to provide incentives to the particular customer submitting a shopping list. For example, manufacturer 16 may wish to offer incentives to such a customer, the content of the incentive being directed to the manufacturer's competing product for a product submitted in the shopping list. The providing of such incentives is illustrated by arrow 120.

Additional types of incentives, such as those described above, may also be utilized, including incentives associated with the price at which a particular item or an item competitive with a particular item was purchased at a give store 14 or any store 14 during a predetermined time period prior

to receipt of the shopping list. Therefore, for example, a customer may be induced to loyalty to a particular brand if the customer knows the manufacturer will always match or beat the price of particular products competitive with products of a particular brand. Furthermore, a customer may be induced to loyalty to a particular store if the customer knows the retail store 14 will match or beat the prices offered by the other stores 14 on the products purchased by the customer. In addition, UPC server 12 may communicate a sorted shopping list, which may or may not include customer incentives, that is configured according to the placement of the various items in a particular store 14, as designated by arrow 122. Thus, the customer may receive an e-mail displaying a map of the aisles of the store with the products provided by the customer in the shopping list at 116 indicated in a location corresponding to the actual location of the particular product in the store 14. Therefore, a particular customer may be more likely to visit a store in which a shopping list is provided showing the particular location of each item the customer desires. For example, a shopper may actually be a spouse or friend of the underlying purchaser, and may not typically frequent a particular store. Therefore, having a list identifying the particular location at which each particular item is offered for sale may induce a customer to use the services of a particular store rather than a different store.

Although the present invention and its advantages have been described in detail, it should be understood that various changes, substitutions, and alternatives can be made therein without departing from the spirit and scope of the present invention as defined by the appended claims. For example, an embodiment of the invention has been described in the context of utilizing UPC codes; however, it is explicitly contemplated that the teachings of the invention may be incorporated with other types of codes representative of products, including existing codes and codes yet to be developed.

What is claimed is:

1. A method for use in marketing, the method comprising:
   receiving, at a remote computer at a remote location, substantially real-time product purchase information from a retail store in conjunction with an identification code of a customer purchasing the products at a point of sale during a current transaction, the remote computer coupled to the retail store and at least one second store;
   generating at the remote location an incentive to be communicated to the identified customer; and
   initiating communication of data relative to the incentive to the identified customer at the point-of-sale for receipt by the identified customer during the current shopping transaction.

2. The method of claim 1, wherein generating at the remote location an incentive to be communicated to the identified customer comprises generating an incentive based upon the product purchase information.

3. The method of claim 1, wherein generating at the remote location an incentive to be communicated to the identified customer comprises generating an incentive based on information independent of the product purchase information.

4. The method of claim 2, wherein generating an incentive further comprises generating the incentive based on past purchases of the identified customer.

5. The method of claim 1, wherein generating an incentive comprises generating an incentive based upon past purchases of the identified customer.

6. The method of claim 1, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the products.

7. The method of claim 1, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is not associated with the products.

8. The method of claim 1, wherein initiating communication of data relative to the incentive comprises initiating communication of a notification of a future electronic discount to the identified customer at the point-of-sale.

9. The method of claim 1, wherein initiating communication of data relative to the incentive comprises initiating communication of data relative to the incentive to a printer located at the point-of-sale.

10. The method of claim 1, wherein initiating communication of data relative to the incentive comprises initiating communication of data relative to the incentive to a computer coupled to the retail store for retransmission to the customer at the point-of-sale.

11. The method of claim 1, wherein initiating communication of data relative to the incentive comprises initiating communication of data relative to the incentive directly to the retail store for receipt by the customer at the point-of-sale.

12. A method comprising:
   receiving at a remote computer substantially real-time product purchase information from a retail store in conjunction with an identification code of a customer purchasing the products in a current transaction, the remote computer located remote from the retail store and coupled to a second store;
   generating, by the remote computer, an incentive to be communicated to the identified customer; and
   communicating the generated incentive from the remote computer to the retail store such that the customer receives the incentive at the retail store during the current transaction.

13. The method of claim 12, wherein communicating the generated incentive comprises transmitting the generated incentive to a point-of-sale in the retail store.

14. The method of claim 13, wherein transmitting the generated incentive to a point-of-sale in the retail store comprises transmitting the generated incentive to a printer located at the point-of-sale in the retail store.

15. The method of claim 12, wherein generating, by the remote computer, an incentive to be communicated to the identified customer comprises generating, by the remote computer, an incentive based on the product purchase information received for the current transaction.

16. The method of claim 12, wherein generating, by the remote computer, an incentive to be communicated to the identified customer comprise generating, by the remote computer an incentive independent of the products purchased by the customer in the current transaction.

17. The method of claim 15, wherein generating, by the remote computer, an incentives to be communicated to the identified customer comprises generating, by the remote computer, an incentive associated with a product purchased by the customer in the current transaction.

18. The method of claim 12, and further comprising storing customer purchase information received on a substantially real-time basis in at least one prior transaction.

19. The method of claim 18, wherein generating, by the remote computer, an incentive to be communicated to the identified customer comprises generating, by the remote computer, an incentive based on the particular products purchased by the customer in the at least one previous transaction.

20. The method of claim 18, wherein generating, by the remote computer, an incentive to be communicated to the identified customer comprises generating, by the remote computer, an incentive based on a combination of the customer purchase information received in the at least one prior transaction and the product purchase information received for the current transaction.

21. A method comprising:

detecting at a remote computer substantially real-time product purchase information from a retail store of a customer purchasing the products in a current transaction, the remote computer located remote from the retail store and coupled to the retail store and at least one second store;

generating, by the remote computer, an incentive to be communicated to the customer in response to determining that the customer's current transaction with the store meets a predetermined shopping criteria; and

communicating the generated incentive from the remote computer to the retail store such that the customer receives the incentive at the retail store during the current transaction.

22. The method of claim 21, wherein the product purchase information includes the price at which purchased products were purchased and wherein the predetermined criteria comprises the dollar amount spent in the current transaction.

23. The method of claim 21, wherein the predetermined shopping criteria comprises the purchase of a particular product.

24. The method of claim 21, wherein the generated incentive comprises a discount on the future purchase of a product.

25. The method of claim 24, wherein communicating the generated incentive comprises providing a redeemable coupon for a particular product.

26. The method of claims 21, wherein detecting at a remote computer substantially real-time product purchase information from a retail store of a customer comprises detecting a code associated with the customer.

27. The method of claim 21, wherein generating, by the remote computer, an incentive to be communicated to the customer comprises generating an incentive in response to determining that the customer's prior transactions with the store meets a predetermined shopping criteria.

28. The method of claim 21 wherein generating, by the remote computer, an incentive to be communicated to the customer comprises generating an incentive in response to determining that the customer's current transaction includes the purchase of a product that is a companion product to a predetermined product.

29. A system comprising a computer coupled to at least two retail stores, the computer located remote from the retail stores, the computer comprising:

a processor;

a memory accessible by the processor, and

a computer program stored in the memory, the computer program operable to be executed on the processor and further operable, for each of the retail stores, to:

detect substantially real-time product purchase information from a retail store in conjunction with an identification code of a customer purchasing the products in a current transaction;

generate an incentive to be communicated to the identified customer; and

initiate communication of the generated incentive from the remote computer to the retail store such that the

customer receives the incentive at the retail store during the current transaction.

30. A method for use in marketing, the method comprising:

receiving, at a remote computer at a remote location, substantially real-time transaction information from a retail store in conjunction with an identification code of a customer conducting a current transaction with the retail store during a shopping transaction, the remote computer coupled to the retail store and coupled to at least one second store;

generating at the remote location an incentive to be communicated to the identified customer; and

initiating communication of data relative to the incentive to the identified customer at the retail store for receipt by the identified customer during the shopping transaction.

31. The method of claim 30, wherein generating at the remote location an incentive to be communicated to the identified customer comprises generating an incentive based upon the transaction information.

32. The method of claim 30, wherein generating at the remote location an incentive to be communicated to the identified customer comprises generating an incentive based on information independent of the transaction information.

33. The method of claim 31, wherein generating an incentive further comprises generating the incentive based on past transactions of the identified customer.

34. The method of claim 30, wherein generating an incentive comprises generating an incentive based upon past transactions of the identified customer.

35. The method of claim 30, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the amount of the current transaction.

36. The method of claim 30, wherein initiating communication of data relative to the incentive comprises initiating communication of a notification of a future electronic discount to the identified customer at the point-of-sale.

37. The method of claim 30, wherein initiating communication of data relative to the incentive comprises initiating communication of data relative to the incentive to a printer located at the retail store.

38. The method of claim 30, and further comprising storing data relative to past transactions of the customer with the retail store.

39. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the dollar amounts of the past transactions.

40. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the dollar amount of the current transaction and the dollar amounts of the prior transactions.

41. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the dollar amounts of the past transactions.

42. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the dollar amount of the current transaction and the dollar amounts of the past transactions.

43. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the

tender amount of the current transaction and the tender amounts of the prior transactions.

44. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises ortn incentive that is based on the tender amounts of the past transactions.

45. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprising an incentive that is based on the tender amount of the current transaction and the tender amounts of the past transactions.

46. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the tender amount of the current transaction.

47. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the purchase volume of the current transaction and the purchase volumes of the past transactions.

48. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the purchase volume of the current transaction and the purchase volumes of the prior transactions.

49. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the purchase volumes of the past transactions.

50. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the purchase volume of the current transaction and the purchase volumes of the past transactions.

51. The method of claim 30, wherein the amount of the incentive is based on the dollar amount of the current transaction.

52. The method of claim 38, wherein the amount of the incentive is based on the dollar amount of the current transaction and the dollar amounts of the past transactions.

53. The method of claim 30, wherein the amount of the incentive is based on the dollar amount of the current transaction and wherein the incentive is for a particular product, the particular product based on a product in the current transaction.

54. The method of claim 38, wherein the amount of the incentive is based on the dollar amount of the current transaction and wherein the incentive is for a particular product, the particular product based on a product purchased in the past transactions.

55. The method of claim 38, wherein the amount of the incentive is based on the dollar amount of the past transactions and wherein the incentive is for a particular product, the particular product based on a product in the current transaction.

56. The method of claim 38, wherein the amount of the incentive is based on a combination of the dollar amounts of the past and currents transactions and wherein the incentive is for a particular product, the particular product purchased by the customer in the current transaction or the past transactions.

57. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the purchase volume of the current transaction and the purchase volumes of the prior transactions.

58. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive for a particular product.

59. The method of claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is redeemable for more than one product.

60. The method of claim 30, wherein the amount of the incentive is based on the purchase volume of the current transaction.

61. The method of claim 38, wherein the amount of the incentive is based on the purchase volume of the current transaction and the purchase volumes of the past transactions.

62. The method of claim 30, wherein the amount of the incentive is based on the purchase volume of the current transaction and wherein the incentive is for a particular product, the particular product based on a product in the current transaction.

63. The method of claim 38, wherein the amount of the incentive is based on the purchase volume of the current transaction and wherein the incentive is for a particular product, the particular product based on a product purchased in the past transactions.

64. The method of claim 38, wherein the amount of the incentive is based on the purchase volume of the past transactions and wherein the incentive is for a particular product, the particular product based on a product in the current transaction.

65. The method of claim 38, wherein the amount of the incentive is based on a combination of the purchase volumes of the past and currents transactions and wherein the incentive is for a particular product, the particular product purchased by the customer in the current transaction or the past transactions.

66. The method of. claim 38, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the purchase volume of the current transaction and the purchase volumes of the prior transactions.

67. The method of claim 30, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the current transaction by the identified customer from a predetermined department in the retail store.

68. The method of claim 38, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the past transactions by the identified customer from a predetermined department in the retail store.

69. The method of claim 38, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the current or past transactions by the identified customer from a predetermined department in the retail store.

70. The method of claim 30, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the current transaction by the identified customer from a predetermined group of products.

71. The method of claim 38, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the past transactions by the identified customer from a predetermined group of products.

72. The method of claim 38, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the current or past transactions by the identified customer from a predetermined group of products.

73. The method of claim 30, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in a predetermined department in the retail store.

74. The method of claim 38, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the past transactions from a predetermined department in the retail store.

75. The method of claim 38, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the current or past transactions from a predetermined department in the retail store.

76. The method of claim 30, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the current transaction by the identified customer from a predetermined group of products.

77. The method of claim 38, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the past transactions from a predetermined group of products.

78. The method of claim 38, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the current or past transactions from a predetermined group of products.

79. The method of claim 30, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on a particular product.

80. The method of claim 38, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on a particular product in the past transactions.

81. The method of claim 38, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on a particular product in the current or past transactions.

82. The method of claim 30, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in a predetermined department in the retail store.

83. The method of claim 38, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the past transactions from a predetermined department in the retail store.

84. The method of claim 38, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the current or past transactions from a predetermined department in the retail store.

85. The method of claim 30, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the current transaction by the identified customer from a predetermined group of products.

86. The method of claim 38, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the past transactions from a predetermined group of products.

87. The method of claim 38, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the current or past transactions from a predetermined group of products.

88. The method of claim 30, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on a particular product.

89. The method of claim 38, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on a particular product in the past transactions.

90. The method of claim 38, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on a particular product in the current or past transactions.

91. The method of claim 30, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive for a particular product.

92. The method of claim 30, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is redeemable for more than one product.

93. A method comprising:

receiving, at a remote computer, substantially real-time transaction information from a retail store in conjunction with an identification code of a customer conducting a current transaction with the retail store, the remote computer located remote from the retail store and coupled to a second store;

generating, by the remote computer, an incentive to be communicated to the identified customer; and

communicating the generated incentive from the remote computer to the retail store such that the customer receives the incentive at the retail store during the current transaction.

94. The method of claim 93, wherein generating, by the remote computer, an incentive to be communicated to the identified customer comprises generating an incentive based upon the transaction information.

95. The method of claim 93, wherein generating, by the remote computer, an incentive to be communicated to the identified customer comprises generating an incentive based on information independent of the transaction information.

96. The method of claim 94, wherein generating an incentive further comprises generating the incentive based on past transactions of the identified customer.

97. The method of claim 93, wherein generating an incentive comprises generating an incentive based upon past transactions of the identified customer.

98. The method of claim 93, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the amount of the current transaction.

99. The method of claim 93, wherein communicating the generated incentive comprises communicating a notification of a future electronic discount to the identified customer at the point-of-sale.

100. The method of claim 93, wherein communicating the generated incentive comprises transmitting data relative to the incentive to a printer located at the retail store.

101. The method of claim 93, and further comprising storing data relative to past transactions of the customer with the retail store.

102. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the dollar amounts of the past transactions.

103. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the dollar amount of the current transaction and the dollar amounts of the prior transactions.

104. The method of claim 101, wherein generating an incentive to be communicated to the identified customer

comprises generating an incentive that is based on the dollar amounts of the past transactions.

105. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the dollar amount of the current transaction and the dollar amounts of the past transactions.

106. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the tender amount of the current transaction and the tender amounts of the prior transactions.

107. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the tender amounts of the past transactions.

108. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the tender amount of the current transaction and the tender amounts of the past transactions.

109. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the tender amount of the current transaction.

110. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the purchase volume of the current transaction and the purchase volumes of the past transactions.

111. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the purchase volume of the current transaction and the purchase volumes of the prior transactions.

112. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the purchase volumes of the past transactions.

113. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the purchase volume of the current transaction and the purchase volumes of the past transactions.

114. The method of claim 93, wherein the amount of the incentive is based on the dollar amount of the current transaction.

115. The method of claim 101, wherein the amount of the incentive is based on the dollar amount of the current transaction and the dollar amounts of the past transactions.

116. The method of claim 93, wherein the amount of the incentive is based on the dollar amount of the current transaction and wherein the incentive is for a particular product, the particular product based on a product in the current transaction.

117. The method of claim 101, wherein the amount of the incentive is based on the dollar amount of the current transaction and wherein the incentive is for a particular product, the particular product based on a product purchased in the past transactions.

118. The method of claim 101, wherein the amount of the incentive is based on the dollar amount of the past transactions and wherein the incentive is for a particular product, the particular product based on a product in the current transaction.

119. The method of claim 101, wherein the amount of the incentive is based on a combination of the dollar amounts of

the past and currents transactions and wherein the incentive is for a particular product, the particular product purchased by the customer in the current transaction or the past transactions.

120. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the purchase volume of the current transaction and the purchase volumes of the prior transactions.

121. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive for a particular product.

122. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is redeemable for more than one product.

123. The method of claim 93, wherein the amount of the incentive is based on the purchase volume of the current transaction.

124. The method of claim 101, wherein the amount of the incentive is based on the purchase volume of the current transaction and the purchase volumes of the past transactions.

125. The method of claim 93, wherein the amount of the incentive is based on the purchase volume of the current transaction and wherein the incentive is for a particular product, the particular product based on a product in the current transaction.

126. The method of claim 101, wherein the amount of the incentive is based on the purchase volume of the current transaction and wherein the incentive is for a particular product, the particular product based on a product purchased in the past transactions.

127. The method of claim 101, wherein the amount of the incentive is based on the purchase volume of the past transactions and wherein the incentive is for a particular product, the particular product based on a product in the current transaction.

128. The method of claim 101, wherein the amount of the incentive is based on a combination of the purchase volumes of the past and currents transactions and wherein the incentive is for a particular product, the particular product purchased by the customer in the current transaction or the past transactions.

129. The method of claim 101, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the purchase volume of the current transaction and the purchase volumes of the prior transactions.

130. The method of claim 93, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the current transaction by the identified customer from a predetermined department in the retail store.

131. The method of claim 101, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the past transactions by the identified customer from a predetermined department in the retail store.

132. The method of claim 101, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the current or past transactions by the identified customer from a predetermined department in the retail store.

133. The method of claim 93, wherein the incentive is for a particular product and wherein the particular product is bas on the purchase of products in the current transaction by the identified customer from a predetermined group of products.

134. The method of claim **101**, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the past transactions by the identified customer from a predetermined group of products.

135. The method of claim **101**, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the current or past transactions by the identified customer from a predetermined group of products.

136. The method of claim **93**, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in a predetermined department in the retail store.

137. The method of claim **101**, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the past transactions from a predetermined department in the retail store.

138. The method of claim **101**, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the current or past transactions from a predetermined department in the retail store.

139. The method of claim **93**, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the current transaction by the identified customer from a predetermined group of products.

140. The method of claim **101**, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the past transactions from a predetermined group of products.

141. The method of claim **101**, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the current or past transactions from a predetermined group of products.

142. The method of claim **93**, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on a particular product.

143. The method of claim **101**, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on a particular product in the past transactions.

144. The method of claim **101**, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on a particular product in the current or past transactions.

145. The method of claim **93**, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in a predetermined department in the retail store.

146. The method of claim **101**, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the past transactions from a predetermined department in the retail store.

147. The method of claim **101**, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the current or past transactions from a predetermined department in the retail store.

148. The method of claim **93**, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the current transaction by the identified customer from a predetermined group of products.

149. The method of claim **101**, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the past transactions from a predetermined group of products.

150. The method of claim **101**, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the current or past transactions from a predetermined group of products.

151. The method of claim **93**, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on a particular product.

152. The method of claim **101**, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on a particular product in the past transactions.

153. The method of claim **101**, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on a particular product in the current or past transactions.

154. A method comprising:

detecting at a remote computer substantially real-time transaction information from a retail store of a customer conducting a current transaction with the retail store, the remote computer located remote from the retail store and coupled to the retail store and at least one second store;

generating, by the remote computer, an incentive to be communicated to the customer in response to determining that the customer's current transaction with the retail store meets a predetermined shopping criteria; and

communicating the generated incentive from the remote computer to the retail store such that the customer receives the incentive at the retail store during the current transaction.

155. The method of claim **154**, wherein the transaction information includes the price at which products were purchased in the current transaction and wherein the predetermined criteria comprises the dollar amount spent in the current transaction.

156. The method of claim **154**, wherein the predetermined shopping criteria comprises the purchase of a particular product.

157. The method of claim **154**, wherein the generated incentive comprises a discount on the future purchase of a product.

158. The method of claim **157**, wherein communicating the generated incentive comprises providing a redeemable coupon for a particular product.

159. The method of claim **154**, wherein detecting at a remote computer substantially real-time product purchase information from a retail store of a customer comprises detecting a code associated with the customer.

160. The method of claim **154**, wherein generating, by the remote computer, an incentive to be communicated to the customer comprises generating an incentive in response to determining that the customers prior transactions with the store meets a predetermined shopping criteria.

161. The method of claim **154**, wherein generating, by the remote computer, an incentive to be communicated to the customer comprises generating an incentive in response to determining that the customer's current transaction includes the purchase of a product that is a companion product to a predetermined product.

162. The method of claim **154**, wherein generating at the remote location an incentive to be communicated to the identified customer comprises generating an incentive based upon the transaction information.

163. The method of claim **154**, wherein generating at the remote location an incentive to be communicated to the

identified customer comprises generating an incentive based on information independent of the transaction information.

164. The method of claim 155, wherein generating an incentive further comprises generating the incentive based on past transactions of the identified customer.

165. The method of claim 154, wherein generating an incentive comprises generating an incentive based upon past transactions of the identified customer.

166. The method of claim 154, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the amount of the current transaction.

167. The method of claim 154, wherein initiating communication of data relative to the incentive comprises initiating communication of a notification of a future electronic discount to the identified customer at the point-of-sale.

168. The method of claim 154, wherein initiating communication of data relative to the incentive comprises initiating communication of data relative to the incentive to a printer located at the retail store.

169. The method of claim 154, and further comprising storing data relative to past transactions of the customer with the retail store.

170. The method of claim 162, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the dollar amounts of the past transactions.

171. The method of claim 162, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the dollar amount of the current transaction and the dollar amounts of the prior transactions.

172. The method of claim 162, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the dollar amounts of the past transactions.

173. The method of claim 162, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is based on the dollar amount of the current transaction and the dollar amounts of the past transactions.

174. The method of claim 162, wherein the amount of the incentive is based on the dollar amount of the current transaction and the dollar amounts of the past transactions.

175. The method of claim 154, wherein the amount of the incentive is based on the dollar amount of the current transaction and wherein the incentive is for a particular product, the particular product based on a product in the current transaction.

176. The method of claim 162, wherein the amount of the incentive is based on the dollar amount of the current transaction and wherein the incentive is for a particular product, the particular product based on a product purchased in the past transactions.

177. The method of claim 162, wherein the amount of the incentive is based on the dollar amount of the past transaction and wherein the incentive is for a particular product, the particular product based on a product in the current transaction.

178. The method of claim 162, wherein the amount of the incentive is based on a combination of the dollar amounts of the past and currents transactions and wherein the incentive is for a particular product, the particular product purchased by the customer in the current transaction or the past transactions.

179. The method of claim 162, wherein generating an incentive to be communicated to the identified customer

comprises generating an incentive that is associated with the purchase volume of the current transaction and the purchase volumes of the prior transactions.

180. The method of claim 154, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive for a particular product.

181. The method of claim 154, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is redeemable for more than one product.

182. The method of claim 154, wherein the amount of the incentive is based on the purchase volume of the current transaction.

183. The method of claim 162, wherein the amount of the incentive is based on the purchase volume of the current transaction and the purchase volumes of the past transactions.

184. The method of claim 154, wherein the amount of the incentive is based on the purchase volume of the current transaction and wherein the incentive is for a particular product, the particular product based on a product in the current transaction.

185. The method of claim 162, wherein the amount of the incentive is based on the purchase volume of the current transaction and wherein the incentive is for a particular product, the particular product based on a product purchased in the past transactions.

186. The method of claim 162, wherein the amount of the incentive is based on the purchase volume of the past transactions and wherein the incentive is for a particular product, the particular product based on a product in the current transaction.

187. The method of claim 162, wherein the amount of the incentive is based on a combination of the purchase volumes of the past and currents transactions and wherein the incentive is for a particular product, the particular product purchased by the customer in the current transaction or the past transactions.

188. The method of claim 162, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive that is associated with the purchase volume of the current transaction and the purchase volumes of the prior transactions.

189. The method of claim 154, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the current transaction by the identified customer from a predetermined department in the retail store.

190. The method of claim 162, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the past transactions by the identified customer from a predetermined department in the retail store.

191. The method of claim 162, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the current or past transactions by the identified customer from a predetermined department in the retail store.

192. The method of claim 154, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the current transaction by the identified customer from a predetermined group of products.

193. The method of claim 162, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the past transactions by the identified customer from a predetermined group of products.

194. The method of claim 162, wherein the incentive is for a particular product and wherein the particular product is based on the purchase of products in the current or past transactions by the identified customer from a predetermined group of products.

195. The method of claim 154, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in a predetermined department in the retail store.

196. The method of claim 162, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the past transactions from a predetermined department in the retail store.

197. The method of claim 162, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the current or past transactions from a predetermined department in the retail store.

198. The method of claim 154, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the current transaction by the identified customer from a predetermined group of products.

199. The method of claim 162, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the past transactions from a predetermined group of products.

200. The method of claim 162, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on products in the current or past transactions from a predetermined group of products.

201. The method of claim 154, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on a particular product.

202. The method of claim 162, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on a particular product in the past transactions.

203. The method of claim 162, wherein the amount of the incentive is based on the dollar amount spent by the identified customer on a particular product in the current or past transactions.

204. The method of claim 154, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in a predetermined department in the retail store.

205. The method of claim 162, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the past transactions from a predetermined department in the retail store.

206. The method of claim 162, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the current or past transactions from a predetermined department in the retail store.

207. The method of claim 154, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the current transaction by the identified customer from a predetermined group of products.

208. The method of claim 162, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the past transactions from a predetermined group of products.

209. The method of claim 162, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on products in the current or past transactions from a predetermined group of products.

210. The method of claim 154, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on a particular product.

211. The method of claim 162, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on a particular product in the past transactions.

212. The method of claim 162, wherein the incentive is for a particular product, the particular product based on the dollar amount spent by the identified customer on a particular product in the current or past transactions.

213. The method of claim 162, wherein generating an incentive to be communicated to the identified customer comprises generating an incentive for a particular product.

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Cybul et al.　　　　　　　　　　　(45) **Date of Patent:　　　Jun. 12, 2001**

(54) **ELECTRONIC COMMERCE SITE WITH QUERY INTERFACE**

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705/1; 709/202; 382/139; 235/380; 707/201

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(57) **ABSTRACT**

An electronic commerce site, comprising: a point of sale (POS) system, having a POS loyalty database and a POS purchase history database; a list builder tool having an on-line shopping history database; a query interface between the POS system and the list builder tool, the POS system accepting data from an on-line shopper received by the list builder tool and routed through the query interface; the list builder tool returning at least one historical shopping list from the on-line shopping history database to the network browser through the query interface responsive to the on-line shopper's request; and, the on-line shopping history database of the list builder tool being updated with information from the POS system transmitted through the query interface. Communications between the query interface and the list builder tool can be over one or more of the Internet, a wide area network and a local area network.

19 Claims, 1 Drawing Sheet
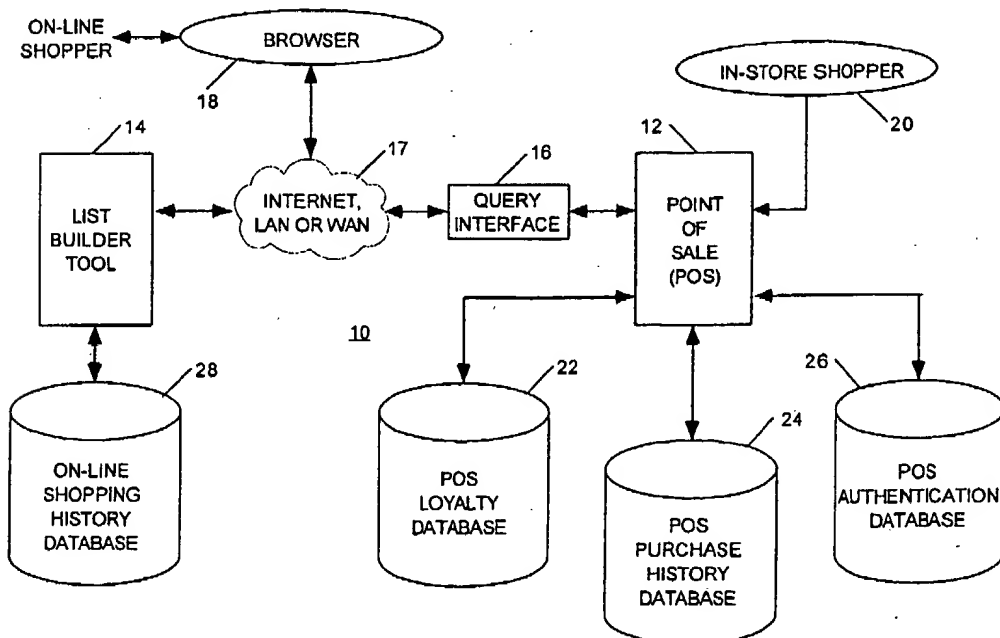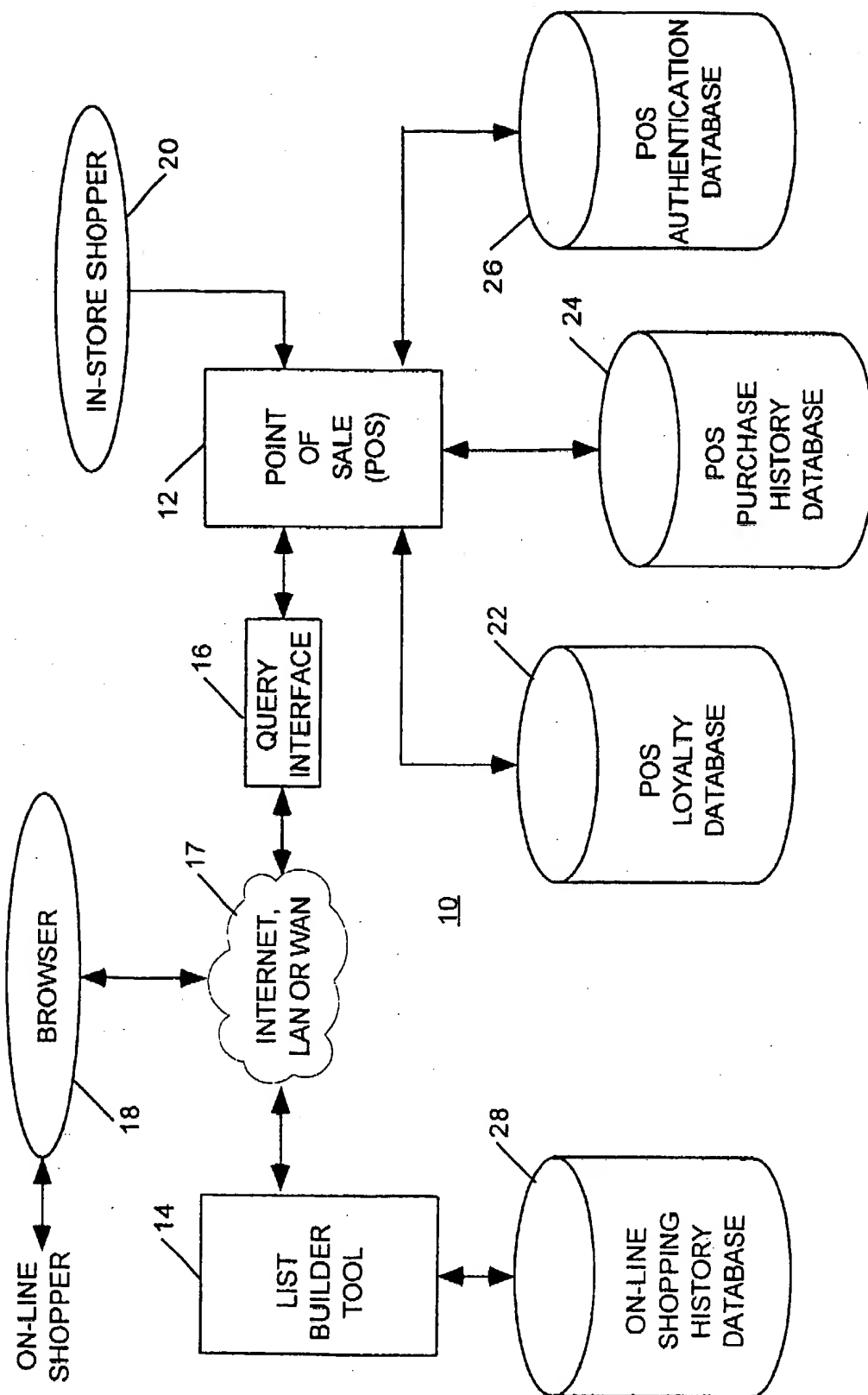
ELECTRONIC COMMERCE SITE WITH QUERY INTERFACE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to the field of electronic commerce (e-commerce) as can be conducted over the Internet, and in particular, to a query interface for a retailer's point of sale (POS) system to facilitate on-line shopping.

2. Description of Related Art

Developing the Internet as a consumer-direct marketing channel is receiving much focus by dealers of retail goods. However, current practice has identified several contributing factors acting as barriers to wide acceptance of this new marketing channel. First, the typical retail inventory may vary from a few items to tens of thousands of items. Such magnitudes make the first time shopping experience overwhelming. Shopping on-line the first time from an inventory of thousands of items has required a very serious time commitment from the consumer. If the demand is too great, an on-line retailer may lose the customer, let alone lure the customer back on a regular basis for repeat or replenishment shopping activity. Second, consumers may not want to shop exclusively on-line. On occasion, they are likely to return to the conventional store, as opposed to the virtual store embodied in an e-commerce on-line site, to view new items firsthand. Finally, consumers opting to utilize an on-line shopping service are doing so to save time. If consumers cannot save time by shopping on-line they cannot be expected to shop on-line.

Of all the on-line shopping services available today, for example Peapod (accessible at www.peapod.com), PCFoods (accessible at pcfoods.com) and Wal-Mart (accessible at www.wal-mart.com), none takes advantage of the data already being gathered by POS systems on consumer shopping habits and preferences. Any on-line retail shopping service operating over the Internet or offered through any public or private on-line consumer service would benefit from this invention. None of these services can create a personalized, first-time on-line shopping experience.

Only one service provider, Streamline (accessible at www.getstreamlined.com), is attempting to create personalized first-time shopping lists. This is accomplished by going into the shopper's home and literally scanning everything in the shopper's pantry. This method has two major disadvantages. First, if the service provider is performing the scanning function, a shopper has to be willing to let a stranger into their home, and into their pantry and closets and cabinets, to perform the function, an unlikely scenario in today's security-conscious society. Second, if the consumer is provided with the scanning apparatus so they can scan items themselves, the time required to scan the entire household would be too long and hence be unattractive for the shopper, who is interested in on-line shopping to save time.

SUMMARY OF THE INVENTION

In accordance with the inventive arrangements, a unique method is provided for eliminating these barriers to on-line e-commerce shopping by providing a query interface to a retail vendor's point of sale (POS) system that can extract a consumer's prior shopping history from the retail vendor's POS database. The data extracted can then be used by shopping list builder tools to maintain or create an initial shopping list or personal inventory. The relatively small size

of the resultant list will facilitate a faster, and therefore more satisfying on-line shopping experience, leading to repeated use of the on-line shopping service.

The POS query interface can advantageously be implemented as a client/server-based tool. A list builder tool can query a POS system for the prior shopping history of a customer, when that customer has previously shopped the POS system or is otherwise of record in the POS system, for example as a result of a registration process. The query can be qualified by, for example, last purchase date, a range of dates, or a specific holiday period. The query can be qualified by other criteria as well. A customer is preferably known to the POS system when that customer is a member of a POS-managed frequent shopper or loyalty program. Security and authentication of the transactions can optionally be supported.

Any invention that can minimize the time that it takes to select items for a first-time purchase from large retail inventories will provide significant advantages to the consumer in terms of time saved. The retailer will also benefit by making the initial on-line shopping experience so attractive that the consumer will return for subsequent, replenishment shopping on-line or in the store.

A method for engaging in electronic commerce (e-commerce) at an e-commerce site, in accordance with an inventive arrangement, comprises the steps of: establishing a point of sale (POS) system, having a POS loyalty database and a POS purchase history database; establishing a list builder tool having an on-line shopping history database; establishing a query interface enabling communications between said POS system and said list builder tool; accepting data from an on-line shopper accessing said list builder tool; enabling the on-line shopper to recall at least one historical shopping list from the on-line shopping history database; and, updating the databases with information from the on-line shopping.

The method can further comprise the step of establishing a POS authentication database for the POS system.

The method can further comprise the step of updating the on-line shopping history database with information from in-store shopping.

The method can further comprise the step of enabling communications between the query interface and the list builder tool over one or more of the Internet, a wide area network and an on-line area network.

The method can further comprise one or more of the following steps: loading the POS loyalty database with a frequent shopper identification (FSID), at least one preferred payment method and demographic information; loading the POS purchase history database with a purchase time stamp and a list of items purchased, and for each item on a given list, the universal product code (UPC), quantity and purchase price; and, loading the on-line shopping history database with purchase histories returned by the POS system.

An electronic commerce (e-commerce) site, in accordance with another inventive arrangement, comprises: a point of sale (POS) system, having a POS loyalty database and a POS purchase history database; a list builder tool having an on-line shopping history database; a query interface between the POS system and the list builder tool, the POS system accepting data from an on-line shopper received by the list builder tool and routed through the query interface; the list builder tool returning at least one historical shopping list from the on-line shopping history database to the network browser through the query interface responsive to the on-line shopper's request; and, the on-line shopping

history database of the list builder tool being updated with information from the POS system transmitted through the query interface.

The POS system can further comprise a POS authentication database.

Communications can be enabled between the query interface and the list builder tool over one or more of the Internet, a wide area network and an on-line area network.

The POS loyalty database can be loaded with a frequent shopper identification (FSID), at least one preferred payment method and demographic information for each frequent shopper.

The POS purchase history database can be loaded with a purchase time stamp and a list of items purchased, and for each item on a given list, a universal product code (UPC), a quantity and a purchase price.

The on-line shopping history database can be loaded with purchase histories returned by the POS system.

The e-commerce site can be embodied in a computer or a computer network, having one or more computers programmed with respective routine sets of instructions.

BRIEF DESCRIPTION OF THE DRAWINGS

The sole FIGURE is a block diagram of an e-commerce site with a query interface in accordance with the inventive arrangements.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A block diagram of an e-commerce site 10 having a POS system and a POS system query interface is shown in the FIGURE. The e-commerce site comprises, in broad terms, a POS system 12 of the kind that supports a frequent shopper or loyalty program and a list builder tool 14. The POS system can be like any of the POS systems now in use in many retail stores and stores of retail chains. IBM currently markets a POS system with loyalty program capabilities. The list builder tool 14 can be like any of the list builder tools now in use in various e-commerce sites. In this regard, the POS system and the list builder tool are to be thought of as generic examples of their respective functions. The inventive arrangements taught herein are related to the manner in which the POS system and the list builder tool are arranged with respect to one another to create a unique query interface which facilitates shopper use of the e-commerce site, rather than to the specific operational details of the POS system and the list builder tool in and of themselves.

The POS system 12 must have two sets of information in order for the query interface to be implemented, and optionally, a third database. The required databases are represented in the drawing as a POS loyalty database 22 and a POS purchase history database 24. The optional database is represented by a POS authentication database 26. The POS system can be implemented as a stand alone computer server or as a local area network (LAN) or as a wide area network (WAN). The databases 22, 24 and 26 can reside in the same computer as the server or in one or more separate computers on a LAN or WAN, or can even be connected over the Internet.

The list builder tool must have a set of information pertaining to historical purchase data of the e-commerce site shoppers, represented by the on-line shopping history database 28.

On-line shoppers can access the e-commerce site through a web browser 18 and the Internet, a WAN and/or a LAN,

represented by cloud 17. On-line shoppers access the list builder tool 14. A client/server query interface 16 is an interface that allows access to the POS system from the list builder tool. The query interface 16 can communicate with the list builder tool over a LAN or WAN or even the Internet as shown by cloud 17. In a typical transaction, the POS system accepts data identifying an on-line shopper, received by the list builder tool and routed through the query interface. It should be appreciated that the relationship of the query interface to the list builder tool, the POS system, the browser and the Internet, LAN or WAN cloud is represented at a high systems or conceptual level, for purposes of simplifying the accompanying explanation, rather than being shown strictly topologically.

As a practical matter, shoppers will, at one time or another, want to shop in person, represented by a personal interface 20 for an in-store shopper. It is an aspect of the inventive arrangement that the in-store shopping activities of loyalty customers will become part of the on-line shopping history database through the query interface 16. Accordingly, the list builder tool 14 can advantageously request purchase histories from the POS system 12 on demand.

A POS system that supports a frequent shopper or loyalty program, a database of loyalty customers, a database of historical purchase data indexed by loyalty customer, a client/server query interface and a list builder tool with an on-line shopping history database together enable a list builder tool to efficiently find and select the past shopping history of respective shoppers and import that data to the list builder's on-line historical purchase list database, thereby making it available for the shoppers' first and subsequent on-line shopping experiences.

The POS system can also be used to provide consumers with the flexibility to still shop at the real store while continuing to maintain an on-line record of those purchases. This can be accomplished by allowing the list builder tool to request purchase histories from the POS system on demand.

Creating and maintaining electronic shopping lists has several aspects. The unique combination described hereinafter in detail allows an arbitrary list building tool to access a customer's shopping history from a selected POS system. Methods for implementing an e-commerce site as described herein can support any present or future POS system. For present POS systems, implementation will be largely dictated by the architecture of the POS system. At a minimum, the POS system must provide a loyalty program, that is a frequent shopper card, or the electronic equivalent, and track purchases based on the loyalty or frequent shopper card identification. Future POS systems need only to incorporate these elements into their basic design.

Basic information about the loyalty customers or frequent shoppers is kept in a first database. This database can contain, without limitation: a frequent shopper identification (FSID), preferred payment methods and demographic information such as name, address, family size, number of children and the like. This information is used to locate the shopper's purchase history via the FSID. Optionally, some or all of this data may be returned to the shopping list builder tool to support custom profile and configuration features unique to a particular shopping list builder tool.

A second database of historical purchase data, indexed by loyalty customer, is defined by the POS system and should minimally contain, on a per loyalty customer basis, a purchase time stamp and a list of items purchased. For each item on a given list, the following information should be

provided, at a minimum: the universal product code (UPC), quantity and purchase price. This information can be combined to provide an historical list for a given shopping experience.

A list builder tool or service is provided with a third database, having on-line shopping history data. This is the intended client application and consumer of the data provided by the inventive arrangements taught herein. The purchase histories returned by the POS system are used to initialize a shopper's personal store inventory. Information about the shopper that is optionally returned can be used to initialize the shopper's personal shopping preferences.

A fourth database, which is optional but presently preferred for maximum efficiency of operation of the e-commerce site, contains configurable security and authentication features.

The methods taught herein are described essentially as software based, including a client/server query interface with configurable security and authentication features (which are optional). Other implementations are not intended to be excluded, including manual processing. The POS system can respond to queries against the database of historical purchase data, indexed by loyalty customer, using a communications method defined by the POS system. For example, queries could be handled over a TCP/IP network using special sockets. Furthermore, the communications protocol should be flexible enough to allow the POS system to batch queries and respond later or to respond in real-time. As a result, the client should be equally flexible.

At minimum, a query to the POS system should contain the FSID and a function code. For purposes of explaining the inventive arrangements, two function codes have been minimally defined. The first is a request for profile information for the addressed loyalty customer. The second is a request for a purchase history. When requesting a purchase history, a date must be provided. The date can be specified in several forms, for example a specific date (Jul. 10, 1997), an explicit range of dates (Jul. 10, 1997, Jul. 20, 1997), an implicit date (last on-line purchase or last in-store purchase), or an implicit range of dates (Thanksgiving, Halloween, or any other holiday).

In response to any of the above queries, the POS system (server) will return the data requested or a failure indication, if any. The data returned by the POS system cannot, of course, exceed that which it has available in its database of historical purchase data and the database of loyalty customers.

The inventive arrangements can be used to extract data from a retail vendor's POS system. The data so extracted can then be used by existing shopping list builder tools to create an initial shopping list or personal inventory for the on-line shopper.

Subsequent invocations of the methodology can be used to update electronic shopping lists. The relatively small size of the resultant list will facilitate a faster, and therefore more satisfying, on-line shopping experience, leading to repeated use of the on-line shopping service.

What is claimed is:

1. A method for engaging in electronic commerce (e-commerce) at an e-commerce site, comprising the steps of:

establishing a point of sale (POS) system, having a POS loyalty database and a POS purchase history database;

establishing a list builder tool at said e-commerce site having an on-line shopping history database separate from said POS purchase history database;

establishing a query interface enabling communications between said POS system and said list builder tool;

accepting data from an on-line shopper accessing said list builder tool;

enabling said on-line shopper to recall at least one historical shopping list from said on-line shopping history database;

capturing information generated by on-line shopping said e-commerce site; and,

updating said on-line shopping history database and said POS purchase history database with said captured information from said on-line shopping.

2. The method of claim 1, further comprising the step of establishing a POS authentication database for said POS system.

3. The method of claim 1, further comprising the steps of:

capturing information generated by in-store shopping; and,

updating said databases with said captured information from said in-store shopping.

4. The method of claim 1, further comprising the step of enabling communications between said query interface and said list builder tool over at least one of the Internet, a wide area network and a local area network.

5. The method of claim 1, further comprising the step of enabling communications between said query interface and said list builder tool over at least two of the Internet, a wide area network and a local area network.

6. The method of claim 1, further comprising the step of loading said POS loyalty database with a frequent shopper identification (FSID), at least one preferred payment method and demographic information.

7. The method of claim 1, further comprising the step of loading said POS purchase history database with a purchase time stamp and a list of items purchased, and for each item on a given list, the universal product code (UPC), quantity and purchase price.

8. The method of claim 1, further comprising the step of loading said on-line shopping history database with purchase histories returned by said POS system through said query interface.

9. The method of claim 1, further comprising the steps of:

loading said POS loyalty database with a frequent shopper identification (FSID), at least one preferred payment method and demographic information;

loading said POS purchase history database with a purchase time stamp and a list of items purchased, and for each item on a given list, the universal product code (UPC), quantity and purchase price; and,

loading said on-line shopping history database with purchase histories returned by said POS system through said query interface.

10. An electronic commerce (e-commerce) site, comprising:

a point of sale (POS) system remote from said e-commerce site, having a POS loyalty database and a POS purchase history database;

a list builder tool at said e-commerce site having an on-line shopping history database separate from said POS purchase history database;

a query interface between said POS system and said list builder tool, said POS system accepting data from an on-line shopper received by said list builder tool and routed through said query interface;

said list builder tool returning at least one historical shopping list from said on-line shopping history data-

base to a network browser through said query interface responsive to said on-line shopper's request;

said e-commerce site capturing information generated by on-line purchase transactions;

said POS system capturing information generated by in-store purchase transactions, and,

said on-line shopping history database of said list builder tool and said purchase history database of said POS system being updated with said captured information through said query interface.

11. The e-commerce site of claim 10, wherein said POS system further comprises a POS authentication database.

12. The e-commerce site of claim 10, wherein communications are enabled between said query interface and said list builder tool over at least one of the Internet, a wide area network and a local area network.

13. The e-commerce site of claim 10, wherein communications are enabled between said query interface and said list builder tool over at least two of the Internet, a wide area network and a local area network.

14. The e-commerce site of claim 10, wherein said POS loyalty database is loaded with a frequent shopper identification (FSID), at least one preferred payment method and demographic information for each frequent shopper.

15. The e-commerce site of claim 10, wherein said POS purchase history database is loaded with a purchase time

stamp and a list of items purchased, and for each item on a given list, a universal product code (UPC), a quantity and a purchase price.

16. The e-commerce site of claim 10, wherein said on-line shopping history database is loaded with purchase histories returned by said POS system through said query interface.

17. The e-commerce site of claim 10, wherein:

said POS loyalty database is loaded with a frequent shopper identification (FSID), at least one preferred payment method and demographic information for each frequent shopper;

said POS purchase history database is loaded with a purchase time stamp and a list of items purchased, and for each item on a given list, a universal product code (UPC), a quantity and a purchase price; and,

said on-line shopping history database is loaded with purchase histories returned by said POS system through said query interface.

18. The e-commerce site of claim 10, embodied in a computer programmed with a routine set of instructions.

19. The e-commerce site of claim 10, embodied in a computer network, having at least two computers programmed with respective routine sets of instructions.

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United States Patent [19]

Fortenberry et al.

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[45] **Date of Patent:** Aug. 8, 2000

[54] **ELECTRONIC SOLICITATIONS FOR INTERNET COMMERCE**

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[52] U.S. Cl. **705/27; 705/26; 705/14**

[58] Field of Search 705/27, 26, 14

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[57] **ABSTRACT**

A method for engaging in electronic commerce over the Internet, comprising the steps of: programming a first electronic mail (e-mail) message to include: a description of at least one product available for sale by an electronic commerce (e-commerce) site; a shopper selectable indicia for indicating that the shopper has chosen to purchase the at least one product; and, a shopper activatable link back to the e-commerce site for transmitting a second e-mail message including the shopper's choice to purchase the at least one product; transmitting the e-mail message over the Internet to at least one potential shopper; and, in response to receiving the second e-mail message transmitted back to the e-commerce site by activation of the link by the at least one potential shopper, consummating the purchase of the at least one product by the at least one potential shopper.

21 Claims, 2 Drawing Sheets

Netscape - (Special Deals!)

~10

file:///C\WINDOWS/TEMPashop.html

The General Store

Special Deals!

20 22 24   26   28

12 → (i) ☑ | I | GS Frt Punch Drink 64oz Btl   4.59

14 → (i) ☑ |IO| · GS Grape 64oz Plstc Btl   2.08

16 → (i) ☐ | I | GS Orng 64oz Plstc Btl   1.91

18 → (i) ☐ | I | GS 2000 Bth Soap Deod. 3.5oz   3.03

30 ── | Order Now! | | 25.39 |
                                                  ~32

[Shop the Site | Search the Site]

34   36

FIG. 1

FIG. 2

1
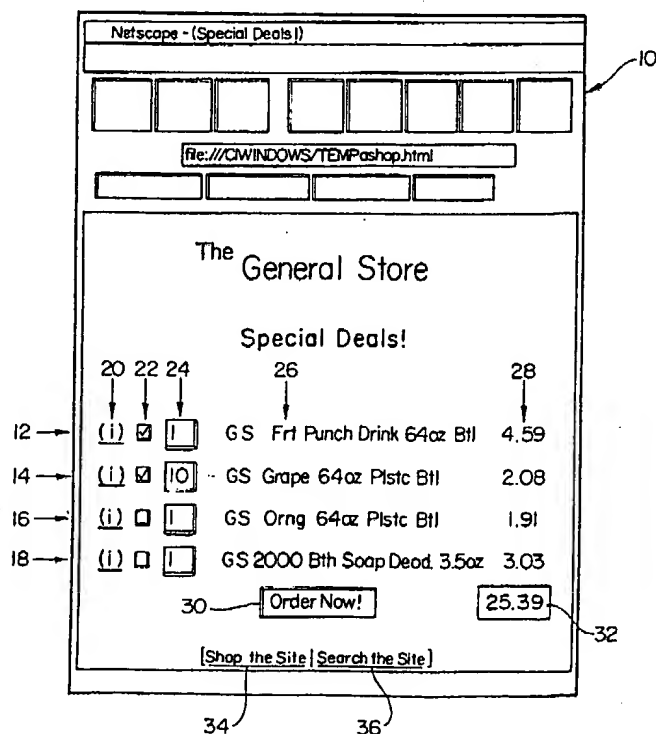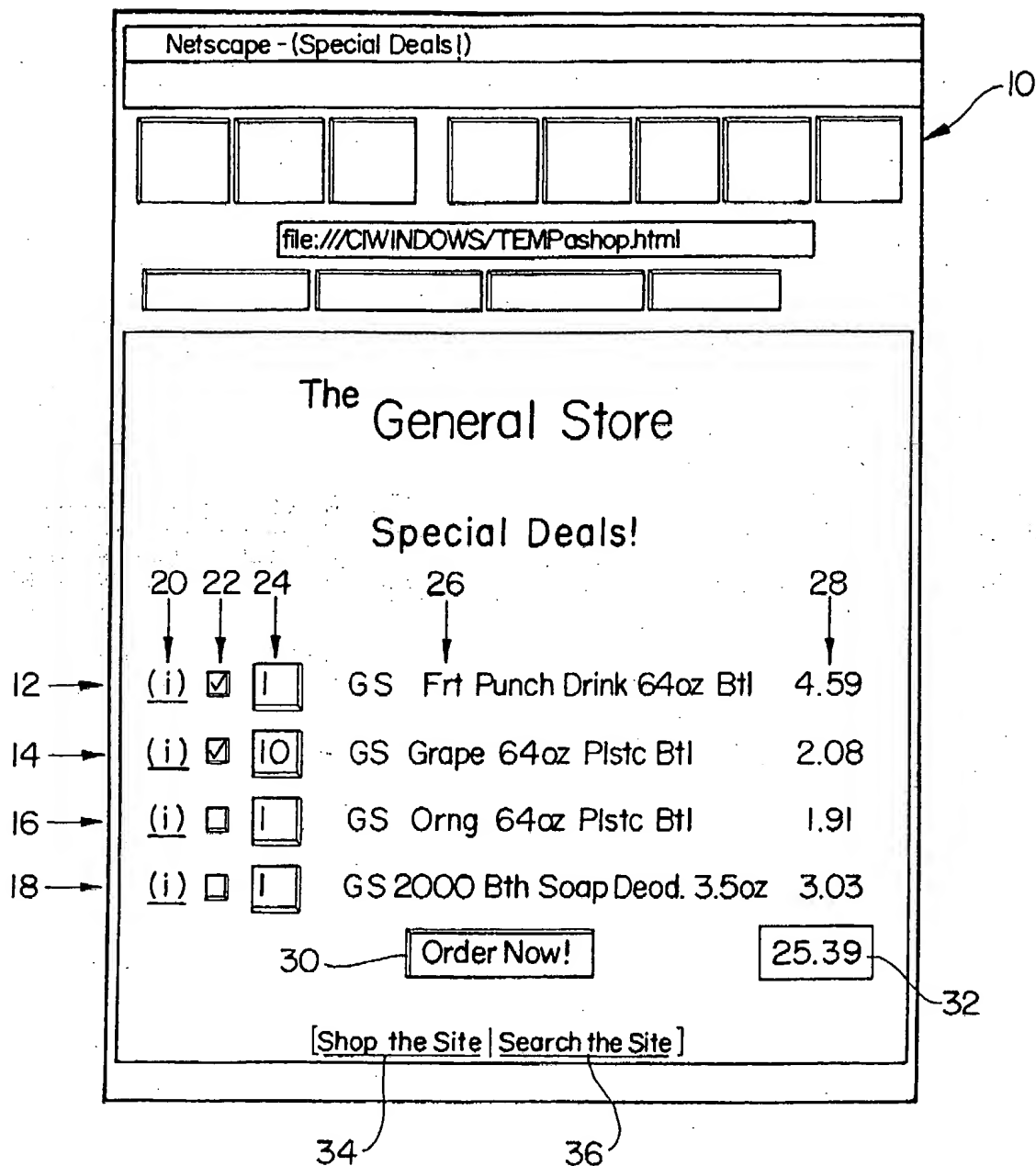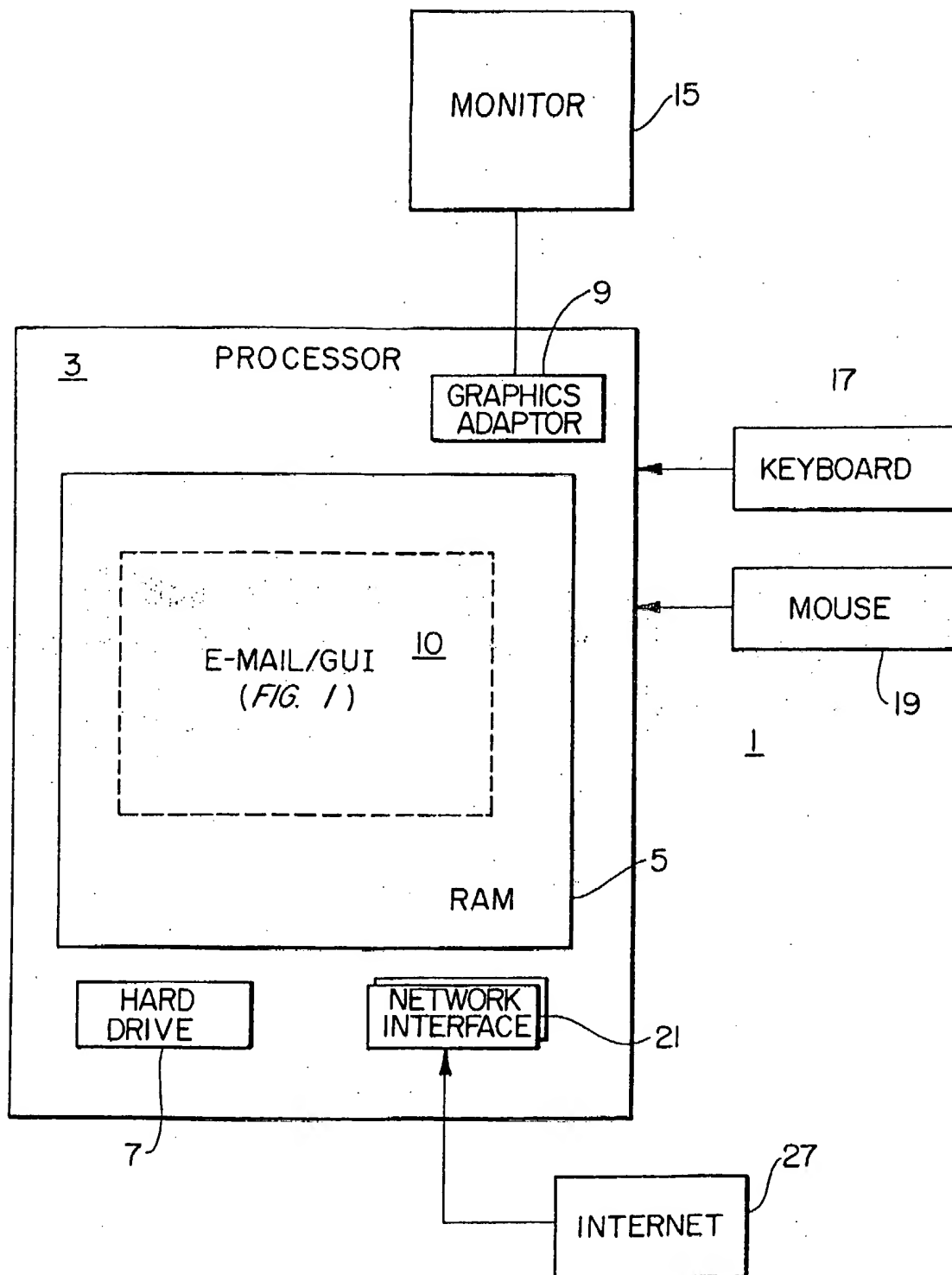
ELECTRONIC SOLICITATIONS FOR INTERNET COMMERCE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to the field of electronic commerce on the Internet, and in particular, to the generation and use of targeted commercial solicitations over the Internet.

2. Description of Related Art

A retailer interested in enticing customers to purchase products may have an advertisement created and published in a periodical, newspaper, appear on TV or radio, or mailed using a mailing list. For example, a grocer has weekly specials and places ads or flyers in the local newspaper to make potential and current customers aware of these specials. In this process, the grocer must engage the newspaper company and provide advertising input. The newspaper staff then creates the flyer, inserting it into a special advertising section.

An advertising approach utilizing a periodical as a delivery mechanism can only access a subset of the population defined as the subscribers of that periodical. Some understanding of subscriber demographics can be derived, but generally, an advertiser does not know if shoppers are responding to the ad or if items are purchased coincidentally. Newspaper advertising is poorly targeted and lacks the ability to verify shopper responses to advertisements.

On the Internet, the number of electronic commerce (e-commerce) sites is growing daily. At an e-commerce site, a shopper can access an electronic catalog (e-catalog) containing textual, graphical and multimedia based information about specific items. A shopper can select one or more item from an e-catalog, placing them into a virtual shopping cart. Shoppers can use search facilities provided by the e-commerce site to locate items. Once all desired items are located and selected, the shopper may proceed to a checkout process, specifying personal data (if the shopper has not previously registered) such as name, address, credit card numbers, and the like. Upon transaction completion the shopper is provided with delivery instructions or related details.

A significant problem affecting e-commerce site success is the inhibited ability to attract customers to their sites. One solution is to extend the e-commerce site catalog in the form of a solicitation sent to shoppers via electronic mail (e-mail).

E-mail can now be sent to shoppers on the Internet in the form of e-mail solicitations, but shoppers receiving such e-mail solicitations have no way to select items and submit an order without going to the e-commerce site and performing all of the usual steps which are necessary at the site to order the goods or services. The usual steps are sometimes referred to as the order mechanics. Presently, no automated method is known that enables a shopper to receive an electronic advertisement and shop from the advertisement.

SUMMARY OF THE INVENTION

This method extends current e-commerce capabilities by allowing the shopper to fill out and submit an order, directly from the e-mail solicitation. Such an extended capability electronic solicitation is referred to herein as an electronic flyer, or e-flyer. The shopper can select items from the solicitation and terminate the transaction, or alternatively, the shopper can surf to the related e-commerce site and continue shopping.

The e-flyer contains a solicitation or advertisement and enables the extension of e-commerce sites, representing a

2

subset of the respective catalogs of e-commerce sites in the form of solicitations to shoppers. The shopper can automatically shop directly from the e-flyer and/or surf to the related e-commerce site and shop directly at the related e-commerce site, a direct link to the related e-commerce site also being provided in the e-flyer.

E-flyers can be created manually using a software utility for construction purposes. Alternatively, e-flyers can be created automatically and tailored, that is targeted, for specific shoppers based on historical shopper profiles. E-flyers can be distributed electronically via e-mail, acquired from web sites or sent on a channel utilizing push technologies.

Some benefits of such technological enhanced e-flyers include: lower advertising costs; improved customer service; reduced shopping time; greater customer loyalty; tracking of buyer habits; development of customer profiles; and, one to one marketing. Retailers gain a competitive advantage and attract new customers, and at the same time, shoppers have the benefit of a customized shopping service.

A method for engaging in electronic commerce over the Internet, in accordance with an inventive arrangement, comprises the steps of: programming a first electronic mail (e-mail) message to include: a description of at least one product available for sale by an electronic commerce (e-commerce) site; a shopper selectable indicia for indicating that the shopper has chosen to purchase the at least one product; and, a shopper activatable link back to the e-commerce site for transmitting a second e-mail message including the shopper's choice to purchase the at least one product; transmitting the e-mail message over the Internet to at least one potential shopper; and, in response to receiving the second e-mail message transmitted back to the e-commerce site by activation of the link by the at least one potential shopper, consummating the purchase of the at least one product by the at least one potential shopper.

The method can further comprise the step of programming the e-mail message to include descriptions of a subset of a larger inventory of products available for sale by the e-commerce site.

The method can further comprise the steps of: programming the shopper activatable indicia to include, for each of the products in the subset, a first activatable icon for selecting the product for purchase and a second activatable icon for entering a quantity of the product to be purchased; and, including in the second e-mail message data representing information corresponding to the activatable icons as activated.

The method can also further comprise the steps of programming the first e-mail message to include a third activatable icon for accessing a search utility at the e-commerce site and programming the first e-mail message to include a fourth activatable icon for accessing a shopping utility at the e-commerce site.

A computer programmed with a routine set of instructions for generating an electronic mail (e-mail) message for engaging in electronic commerce (e-commerce) over the Internet, in accordance with another inventive arrangement, comprises: means for including in the e-mail message a graphical user interface (GUI), the GUI including a description of at least one product available for sale by an e-commerce site; a shopper selectable indicia for indicating that the shopper has chosen to purchase the at least one product; and, a shopper activatable link back to the e-commerce site for transmitting a second e-mail message including the shopper's choice to purchase the at least one

product; means for transmitting the e-mail message over the Internet to at least one potential shopper; and, means operable in response to receiving the second e-mail message transmitted back to the e-commerce site by activation of the link by the at least one potential shopper, consummating the purchase of the at least one product by the at least one potential shopper.

The GUI can include descriptions of a subset of a larger inventory of products available for sale by the e-commerce site.

The GUI can include a first set of activatable icons for selecting the products from the subset of products for purchase and a second set of activatable icons for entering a quantity of the selected products to be purchased.

The GUI can further include an activatable icon for accessing a search utility at the e-commerce site and an icon for accessing a shopping utility at the e-commerce site.

A computer programmed with a routine set of instructions for generating an electronic mail (e-mail) message for engaging in electronic commerce (e-commerce) over the Internet, in accordance with yet another inventive arrangement comprises: means for generating an e-mail message having a graphical user interface (GUI) enabling a recipient of the e-mail message over the Internet to order at least one product from an e-commerce site without logging on to the e-commerce site, the GUI having at least one activatable link for transmitting purchase data back to the e-commerce site; means for transmitting the e-mail message over the Internet to at least one potential shopper; and, means operable in response to receiving the purchase data, transmitted back to the e-commerce site by activation of the link, for consummating the purchase of the at least one product by the at least one potential shopper.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows an e-flyer and GUI in accordance with the inventive arrangements.

FIG. 2 shows a block diagram of a computer programmed with a routine set of instructions for generating the e-flyer and GUI shown in FIG. 1.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

An e-flyer is a hyper text markup language (HTML) document whose creation is initiated by retailers interested in distributing solicitations through an electronic medium to Internet based shoppers. The e-flyer identifies product names, descriptions and prices and contains control features to link the shopper directly to the e-commerce site. Control features include, for example, a search utility, delivery request, shop at e-commerce site request and customer service link. Product pictures or graphic image files (e.g., gif, .jpg, etc.) can be added to enhance the e-flyer presentation. The e-flyer is multimedia enabled, with optionally embedded elements including, but not limited to audio files (e.g., .wav, au, etc.) and video files (e.g., .mov, mpg, etc.). An exemplary e-flyer 10 is shown in the Figure.

E-flyers can be created manually and automatically. In order to crate an e-flyer manually, an administrator or author interacts with a software utility designed to facilitate e-flyer construction. This utility displays a list of products, prices and graphic images extracted from a product database or e-catalog. The e-flyer author can generate an e-flyer using point and click, drag and drop techniques to select content and organize the format. The resulting e-flyer can appear

similar to the flyer sent to shoppers via the postal service, inserted in newspapers or similar to catalog pages. As the final step in this process, the e-flyer author can specify a recipient list selected from a shopper database. Potential recipients can optionally subscribe to or cancel an e-flyer subscription.

Automatic e-flyer construction can yield an equivalent result as compared to the manual process. The automatic e-flyer construction process differs in the respect that rule based software algorithms select e-flyer content. This content may be general or specifically tailored to the intended recipient's preferences or anticipated shopping needs.

E-flyer creation targeting a specific user is made possible through the acquisition and analysis of shopper data. Shopper data can be acquired either by shopper responses using fill-in forms such as during the registration process. Shopper data may also be acquired during visits to an e-commerce site where that user is known, having logged in with a user id or by responding to an e-flyer. While at the e-commerce site, shopper behaviors can be logged such as web pages visited, actions taken, items purchased, etc. Behaviors can be categorized and stored in a database. Shoppers may explicitly state preferences in forms provided at the e-commerce site. Responses may then be used to filter future content presented to the shopper in the e-flyer.

Assume, for example, that a shopper has indicated a preference for red shoes in a form provided by the e-commerce based SuperShoe site. The same shopper explicitly stated they wanted to be notified only once every six months (anticipated replenishment or shoe replacement). A reminder in the form of an e-flyer is automatically created when the two conditions, namely red shoes on sale and six months elapsed are met. The red shoe preference is matched against tagged HTML content in the SuperShoe database and a shopper specific solicitation results. To further strengthen the shopper's profile, that shoppers response or lack of a response to the e-flyer is noted in the database.

E-flyers can be distributed electronically to shoppers in a variety of ways. E-mail provides a common mechanism for e-flyer distribution via mail serves such as SMTP, POP3 and the like. E-flyers may also be distributed using emerging Push Technologies. The Pointcast service represents such an emerging technology. Users select the type of content and the conditions under which that content is sent, such as time period. Servers push information to users based on such definitions. In the future, a shopper may select to access a service that provides channels dedicated to the transmission of e-flyers.

A further possibility for e-flyer access includes the placement of e-flyers at related web sites. For example, a potential shopper visits the web site of a famous sporting event, for example a golf tournament, where a sporting goods business has placed an e-flyer, perhaps for golf balls or special clubs or souvenir apparel related to that event or related events or sponsors of the events. The potential shopper views the e-flyer and may elect to purchase one or more items. This buying decision has been prompted without the potential shopper explicitly visiting the e-commerce site of the sporting goods business.

Once an e-flyer is received the shopper may perform a transaction. The e-flyer is an HTML based document with extended capabilities requiring a Web Browser such as Netscape® Communicator version 4.0 or later. A shopper receiving the e-flyer shown in the Figure can perform any one or more of the following actions.

The first action is to purchase one or more of the items featured in the e-flyer. The special deals shown in e-flyer 10

are three different flavors a sports beverage under the house brand GS of the General Store. Each product is a line item in a list. The fruit punch flavor is line item 12, the grape flavor is line item 2, and the orange flavor is line item 3. GS brand soap is the fourth line item. Each line item has a column entry 20 for item number, a column entry 22 for indicating a choice to purchase, a column entry 24 for quantity, a column entry 26 for product description and a column entry 28 for price. In the e-flyer 10 the shopper has chosen to purchase items 1 and 2, by clicking on the empty rectangle in column 22 to insert a check mark as shown, or other symbol. One container of fruit punch flavor and 10 containers of grape flavor are selected in column 24. Optionally, the e-flyer can provide a running total in block 32, depending upon the sophistication of the e-flyer. When the shopper is ready, the Order Now button 30 is activated, which automatically results in the purchase. Since the e-flyer is created based on information in the shopper data base of the General Store, all of the credit and delivery information is already available and need not be provided. The order is automatically transmitted back to the e-commerce site for accounting and fulfillment of the order. This may include the e-commerce site returning an e-mail confirmation, perhaps with a product pickup or delivery schedule.

The e-flyer provides the shopper with several additional options. A first option is to activate the Search the Site button 36, which allows the shopper to enter key word terms such as "ketchup" to locate a subset of the e-commerce site inventory from which the shopper can isolate further selections. Once a shopper has selected the set of desired items, the order may be submitted to the e-commerce site for procurement by clicking on the Order Now button. A second option is to activate the Shop the Site button 34, enabling the shopper to shop directly at the e-commerce site and browse the available inventory directly. Any items selected from the e-flyer are part of the shopper's virtual shopping cart. Shoppers may already be registered, or may be first time shoppers who need to register, using the site's registration process, providing data such as name, address, billing information and the like. Once the shopper is logged in they may select additional items to be combined along with the e-flyer selections made before accessing the e-commerce site. This combined set of items would comprise the shopper's order.

A third option is to save the e-flyer for further purchases as long as the special deals are available. In the event the shopper places an order after the special deals have expired, the e-flyer programming or the e-commerce site can generate a message to the shopper explaining that the offer has expired. A fourth option is to delete the e-flyer to preclude further purchases. Finally, the e-flyer can itself be programmed to delete itself or automatically generate an expiration warning at the proper time.

The inventive arrangements described herein provide for the first time an e-mail message having a graphical user interface (GUI) enabling a recipient of said e-mail message over the Internet to order products from an e-commerce site without logging on to the e-commerce site. The GUI has at least one activatable link for transmitting purchase data back to said e-commerce site. The GUI can also be provided with activatable icons for purchasing one or more products when more than one product is available, and further activatable icons for entering quantities of the selected product or products to be purchased. The GUI is advantageously provided with another activatable icon for initiating a data transmission back to the e-commerce site, for example a second e-mail message, including information representing purchase data entered by the shopper. Finally, the GUI can

also be provided with an activatable icon for accessing a search utility at said e-commerce site and an activatable icon for accessing a shopping utility at said e-commerce site.

A computer, for example one associated with the e-commerce site, such as the computer in which the e-mail message and GUI are generated, includes means for transmitting the e-mail message over the Internet to at least one potential shopper and means operable in response to receiving the purchase data, transmitted back to the e-commerce site by activation of the respective icon, for consummating the purchase of the product or products selected by the shopper.

A computer system 1 is shown in block diagram form in FIG. 2. The computer system is programmed with a set of instructions stored in a physical medium, for example a hard drive 7 and/or a random access memory (RAM) 5 of a central processor 3, for generating the e-mail message 5 and GUI shown in FIG. 1. The computer system 1 has a graphics adapter 9 that generates the GUI display explained above and shown in FIG. 1. The computer system comprises one or more network interface circuits or cards 21, for connecting to the Internet 27 directly, or through intermediate local area networks (LAN) and/or wide area networks (WAN), not shown for purposes of clarity. Two examples of circuit or card 21 are a modem or an ISDN interface. The computer system further comprises a monitor 15, a keyboard 17 and a mouse 19. The dashed line box shown in random access memory 5 represents the process resulting in the generation of the e-mail message and GUI shown in FIG. 1, and is intended to represent a programmed routine of instructions, in accordance with the inventive arrangements, stored in a physical medium embodied by hard drive 7 and loaded into another physical medium embodied by random access memory 5. The programmed routine of instructions implements the steps of the configuring process as shown and described herein.

What is claimed is:

1. A method for engaging in electronic commerce over the Internet, comprising the steps of:

programming a first electronic mail (e-mail) message to include: a description of at least one product available for sale by an electronic commerce (e-commerce) site; a shopper selectable indicia for indicating that said shopper has chosen to purchase said at least one product; and, a shopper activatable link back to said e-commerce site for directly transmitting to said e-commerce site a second e-mail message including said shopper's choice to purchase said at least one product;

transmitting said first e-mail message over the Internet from said e-commerce site directly to at least one potential shopper; and,

in response to receiving said second e-mail message transmitted back to said e-commerce site by activation of said link by said at least one potential shopper, consummating said purchase of said at least one product by said at least one potential shopper.

2. The method of claim 1, comprising the step of programming said e-mail message to include descriptions of a subset of a larger inventory of products available for sale by said e-commerce site.

3. The method of claim 2, comprising the steps of:

programming said shopper activatable indicia to include, for each said product in said subset, a first activatable icon for selecting said product for purchase and a second activatable icon for entering a quantity of said product to be purchased; and,

including in said second e-mail message data representing information corresponding to said activatable icons as activated.

4. The method of claim 3, comprising the step of programming said first e-mail message to include a third activatable icon for accessing a search utility at said e-commerce site.

5. The method of claim 4, comprising the step of programming said first e-mail message to include a fourth activatable icon for accessing a shopping utility at said e-commerce site.

6. The method of claim 3, comprising the step of programming said first e-mail message to include a third activatable icon for accessing a shopping utility at said e-commerce site.

7. The method of claim 1, comprising the steps of:

programming said shopper activatable indicia to include a first activatable icon for selecting said at least one product for purchase and a second activatable icon for entering a quantity of said at least one product to be purchased; and,

including in said second e-mail message data representing information corresponding to said activatable icons as activated.

8. The method of claim 1, comprising the step of programming said first e-mail message to include an activatable icon for accessing a search utility at said e-commerce site.

9. The method of claim 1, comprising the step of programming said first e-mail message to include an activatable icon for accessing a shopping utility at said e-commerce site.

10. The method of claim 1, comprising the steps of:

programming said first e-mail message to include a first activatable icon for accessing a search utility at said e-commerce site; and,

programming said first e-mail message to include a second activatable icon for accessing a shopping utility at said e-commerce site.

11. A computer programmed with a routine set of instructions for generating an electronic mail (e-mail) message for engaging in electronic commerce (e-commerce) over the Internet, the computer comprising:

means for including in said first e-mail message a graphical user interface (GUI), said GUI including a description of at least one product available for sale by an e-commerce site; a shopper selectable indicia for indicating that said shopper has chosen to purchase said at least one product; and, a shopper activatable link back to said e-commerce site for directly transmitting from said shopper to said e-commerce site a second e-mail message including said shopper's choice to purchase said at least one product;

means for transmitting said first e-mail message over the Internet from said e-commerce site directly to at least one potential shopper; and,

means operable in response to receiving said second e-mail message transmitted back to said e-commerce

site by activation of said link by said at least one potential shopper, consummating said purchase of said at least one product by said at least one potential shopper.

12. The computer of claim 11, wherein said GUI includes descriptions of a subset of a larger inventory of products available for sale by said e-commerce site.

13. The computer of claim 11, wherein said GUI includes a first activatable icon for selecting said products from said subset of products for purchase and a second activatable icon for entering a quantity of said selected products to be purchased.

14. The computer of claim 13, wherein said GUI includes a third activatable icon for accessing a search utility at said e-commerce site.

15. The computer of claim 14, wherein said GUI includes a fourth activatable icon for accessing a shopping utility at said e-commerce site.

16. The computer of claim 13, wherein said GUI includes a third activatable icon for accessing a shopping utility at said e-commerce site.

17. The computer of claim 11, wherein said GUI includes a first activatable icon for selecting said at least one product for purchase and a second activatable icon for entering a quantity of said at least one product to be purchased.

18. The computer of claim 11, wherein said GUI includes an activatable icon for accessing a search utility at said e-commerce site.

19. The computer of claim 11, wherein said GUI includes an activatable icon for accessing a shopping utility at said e-commerce site.

20. The computer of claim 11, wherein said GUI includes:

a first activatable icon for accessing a search utility at said e-commerce site; and,

a second activatable icon for accessing a shopping utility at said e-commerce site.

21. A computer programmed with a routine set of instructions for generating an electronic mail (e-mail) message for engaging in electronic commerce (e-commerce) over the Internet, the computer comprising:

means for generating an e-mail message having a graphical user interface (GUI) enabling a recipient of said e-mail message over the Internet to order at least one product from an e-commerce site without logging on to said e-commerce site, said GUI having at least one activatable link for transmitting purchase data directly back to said e-commerce site;

means for transmitting said e-mail message over the Internet from said e-commerce site directly to at least one potential shopper; and,

means operable in response to receiving said purchase data, transmitted back to said e-commerce site by activation of said link, for consummating said purchase of said at least one product by said at least one potential shopper.
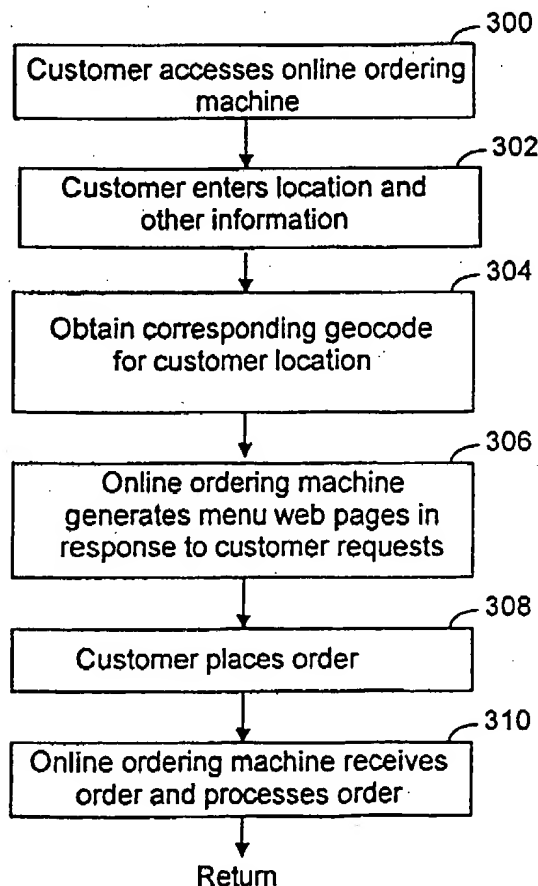
* * * * *

US005991739A

United States Patent [19]

Cupps et al.

[11] Patent Number: 5,991,739

[45] Date of Patent: Nov. 23, 1999

[54] **INTERNET ONLINE ORDER METHOD AND APPARATUS**

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[73] Assignee: **FOOD.COM**, San Francisco, Calif.

[21] Appl. No.: **08/976,793**

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[51] Int. Cl.⁶ G06F 17/60

[52] U.S. Cl. 705/26; 705/26; 705/37; 705/27

[58] Field of Search 705/26; 340/994; 379/201

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Primary Examiner—Kevin J. Teska
Assistant Examiner—Mark J. Fink
Attorney, Agent, or Firm—Flehr Hohbach Test Albritton & Herbert; Steven F. Caserza

[57] **ABSTRACT**

A system and method for providing an online ordering machine that manages the distribution of home delivered products over a distributed computer system is herein disclosed. The distributed computer system includes a group of customers connected to client computers and at least one server computer system that executes the online ordering machine. The online ordering machine provides the customers with product information from various vendors whose delivery range is within the customer's location or with product information from vendors having take out service within a specified range from the customer's location. The vendor's and customer's location is associated with a geocode representing the latitude and longitude coordinates of the location. The search for the vendors servicing the customer's location is done using the geocodes. The online ordering machine accepts orders from the customer for a particular product from a selected vendor. The order is converted into voice instructions which are transmitted to the vendor through a telephone call. The vendor receives the telephonic order and responds to voice-prompted instructions used to confirm the order.

40 Claims, 20 Drawing Sheets

```
                                    ┌─ 300
   ┌──────────────────────────────┐
   │ Customer accesses online ordering │
   │           machine            │
   └──────────────────────────────┘
                 │
                 ▼              ┌─ 302
   ┌──────────────────────────────┐
   │   Customer enters location and │
   │       other information      │
   └──────────────────────────────┘
                 │
                 ▼              ┌─ 304
   ┌──────────────────────────────┐
   │   Obtain corresponding geocode │
   │      for customer location   │
   └──────────────────────────────┘
                 │
                 ▼              ┌─ 306
   ┌──────────────────────────────┐
   │    Online ordering machine   │
   │  generates menu web pages in │
   │ response to customer requests │
   └──────────────────────────────┘
                 │
                 ▼              ┌─ 308
   ┌──────────────────────────────┐
   │     Customer places order    │
   └──────────────────────────────┘
                 │
                 ▼              ┌─ 310
   ┌──────────────────────────────┐
   │ Online ordering machine receives │
   │  order and processes order   │
   └──────────────────────────────┘
                 │
                 ▼
              Return
```

100

FIG. 1

100

CPU — 118
— 112

114

User Interface

Communications Interface
116

113

IVR Hardware

107A

107M

110

110

Operating System — 120
Internet Access Procedures — 122
Web Server Procedures — 124
Web Page Creation Proc — 126
Order Database — 128
Geocode Database — 130
Online Order Procedure — 132
IVR Procedure — 134
Recorded Speech Database — 136
Order Text File — 138
Voice Data File — 140
Geocode Procedure — 142
Menu Web Pages — 144
Menu File System — 146
• • •

Online Ordering
Machine 106

104

Network Interconnectivity
(Switches, etc)

CPU
— 112

114 119

User Interface

Communications
Interface
116

Operating System — 120
Internet Access
Procedures — 122
• • •

Client 102

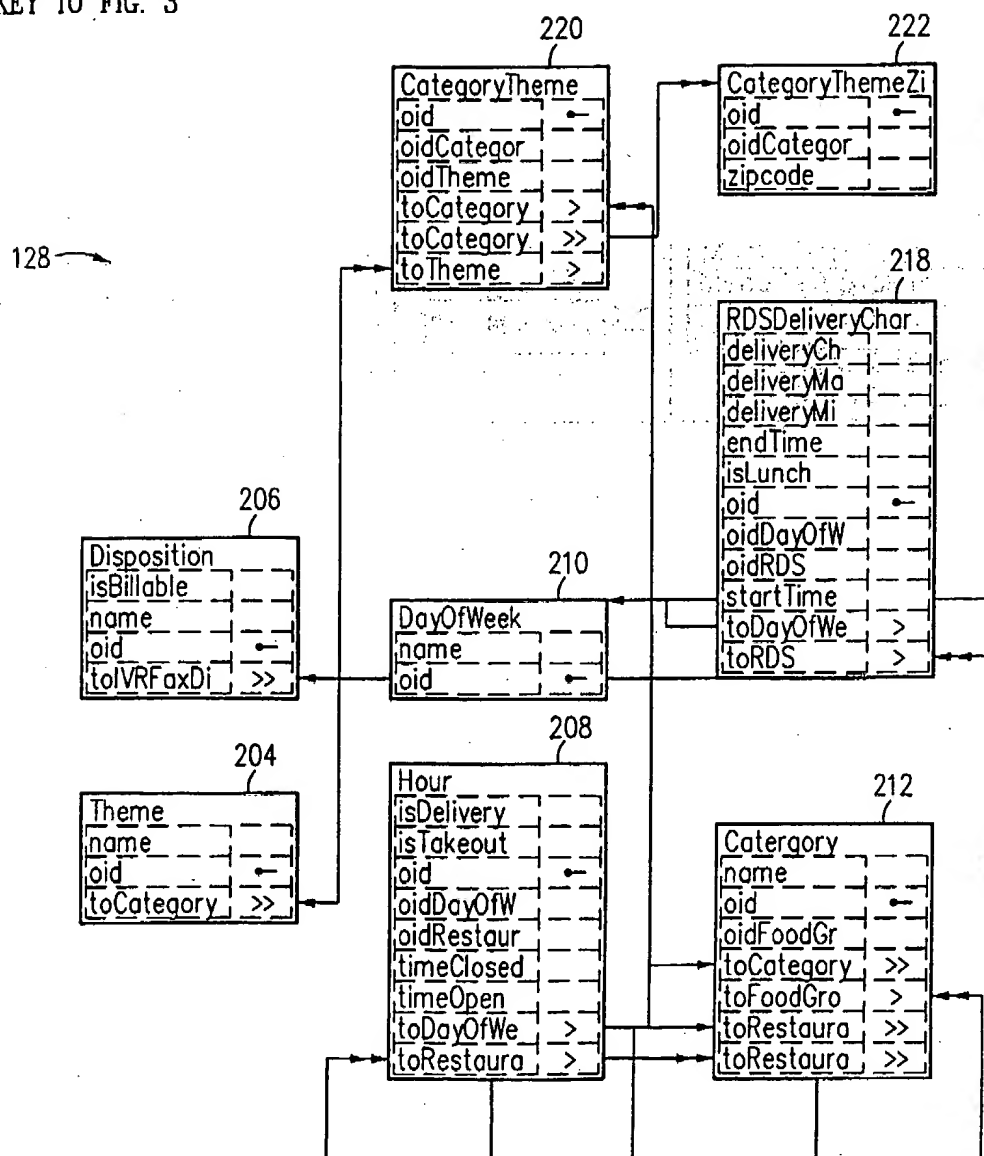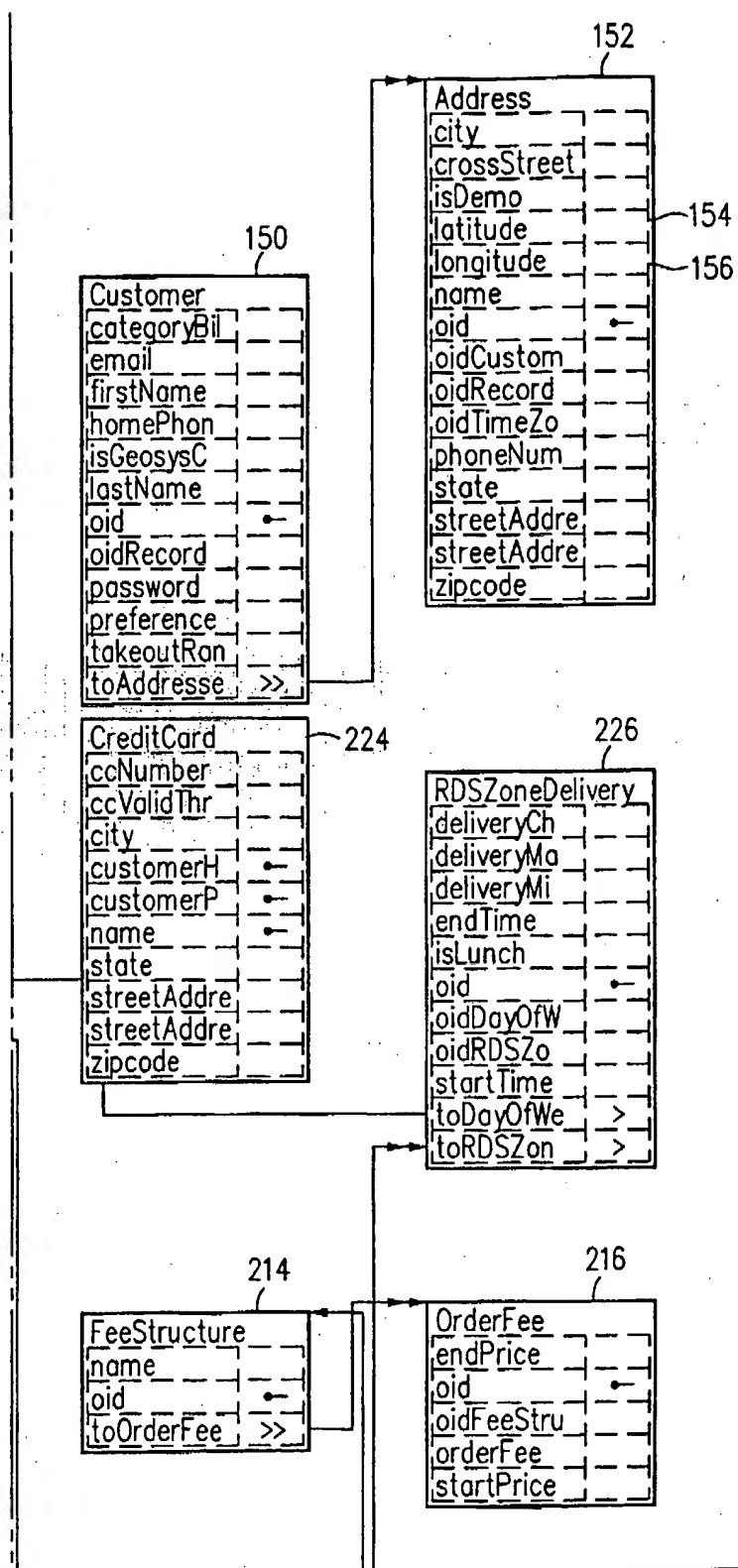**FIG. 2**

FIG. 3A | FIG. 3B
FIG. 3C | FIG. 3D
FIG. 3E | FIG. 3F

KEY TO FIG. 3

220

CategoryTheme
oid
oidCategor
oidTheme
toCategory   >
toCategory   >>
toTheme   >

222

CategoryThemeZi
oid
oidCategor
zipcode

128

218

RDSDeliveryChar
deliveryCh
deliveryMa
deliveryMi
endTime
isLunch
oid
oidDayOfW
oidRDS
startTime
toDayOfWe   >
toRDS   >

206

Disposition
isBillable
name
oid
toIVRFaxDi   >>

210

DayOfWeek
name
oid

204

Theme
name
oid
toCategory   >>

208

Hour
isDelivery
isTakeout
oid
oidDayOfW
oidRestaur
timeClosed
timeOpen
toDayOfWe   >
toRestaura   >

212

Catergory
name
oid
oidFoodGr
toCategory   >>
toFoodGro   >
toRestaura   >>
toRestaura   >>

FIG. 3A

152

Address
city
crossStreet
isDemo
latitude
longitude
name
oid
oidCustom
oidRecord
oidTimeZo
phoneNum
state
streetAddre
streetAddre
zipcode

154
156

150

Customer
categoryBil
email
firstName
homePhon
isGeosysC
lastName
oid
oidRecord
password
preference
takeoutRan
toAddresse   >>

CreditCard
ccNumber
ccValidThr
city
customerH
customerP
name
state
streetAddre
streetAddre
zipcode

224

226

RDSZoneDelivery
deliveryCh
deliveryMa
deliveryMi
endTime
isLunch
oid
oidDayOfW
oidRDSZo
startTime
toDayOfWe   >
toRDSZon   >

214

FeeStructure
name
oid
toOrderFee   >>

216

OrderFee
endPrice
oid
oidFeeStru
orderFee
startPrice

FIG. 3B

158

OrderMaster
billAmount	
billDate	
dateOfOrd	
deliveryCh	
disposition	
estimatedD	
firstTimeOr	
isGeosysC	
isLocked	
IvrFaxCod	
name	
oid	←
oidAddress	
oidCreditC	
oidDispositi	
oidPaymen	
oidRestaur	
orderType	
paymentDa	
previousUR	
serverAddr	
timeOrderE	
totalBefore	
totalWithDe	

198

FoodGroup
color	
name	
oid	←
toCategorie	>>

190

RDSCrossZoneFe
crossZone	
oid	←
oidRDS	
zone1	
zone2	
toRDS	>

192

Company
address	
billSeparat	
billingAddr	
billingCity	
billingCont	
billingFax	
billingPhon	
billingState	
billingZip	
city	
companyN	
companyP	
contactNa	
contactPho	
email	
fax	
isRDS	
oid	←
oidRDS	
pager	
state	
zip	
toCompany	>>
toRDS	>
toRestaura	>>

FIG. 3C

200

RDSZone	
isOutOfZo	
oid	←
oidRDS	
outOfZone	
outOfZone	
zone	
toRDS	>
toRDSGrids	>>
toRDSZon	>>

202

IVRFaxDisposition	
oid	←
oidDispositi	
oidIVRFax	
toDispositio	>
toIVRFaxC	>

194

RDSGrid	
endGrid	
oid	←
oidRDSZo	
startGrid	
toRDSZon	>

196

CompanyFeeStru	
effictiveDa	
expirationD	
oid	←
oidCompan	
oidFeeStru	
toFeeStruct	>

FIG. 3D

FIG. 3E

182

Holiday	
date	
isDelivery	
isTakeout	
oid	●
oidRestaur	
timeClosed	
timeOpen	

184

IVRFaxCode	
code	
isToCall	
name	
oid	●
toIVRFaxDi	>>

186

EoSequenceTable	
counter	
tableName	●

176

RestaurantPayme	
oidPaymen	●
oidRestaur	●
toPayment	>

178

RDSGratuity	
endOrderA	
gratuityRat	
isLunch	
oid	●
oidRDS	
startOrderA	
toRDS	

188

RDSCategoryFee	
semFee	
name	
oid	●
oidRDS	
toRDS	>

FIG. 3F

N

240

Longitude

Latitude

Equator

S

FIG 4

250

09456, 12943

252   254

| A (1) | B (2) |
| C (4) | D (8) |

256   258

FIG. 5

Header:
    Order Number
    Order Type
    First Time Customer
    Delivery
    Special Instructions
    RDS Number
    Restaurant Name
    Restaurant Phone
    Restaurant Fax
    Customer Name
    Customer Email
    Customer Address1
    Customer Address2
    Customer Cross St.
    Customer City
    Customer Phone
    Total
    Payment Type
    Special Count
    Item Count

Special:
    ID
    Description of Item
    Price
    Item Count

Special Item:
    ID
    Description of Item
    Price
    Item Count

Item:
    ID
    Description of Item
    Quantity
    Price

Return Information:
    Return Code
    Delivery Time

FIG. 6

128

Order
Database

126

Web Creation
Procedures

User Requests

146

Menu File
System

144

Menu Web
Pages

FIG. 7

Pizza

Delivery Restaurants

The following restaurants were found in your area. To see a restaurant's menu, click the Logo, Restaurant Name, or Menu Button.

1-5	6-10	11-11
Ba-Ga	Go-Pi	Ro-Ro
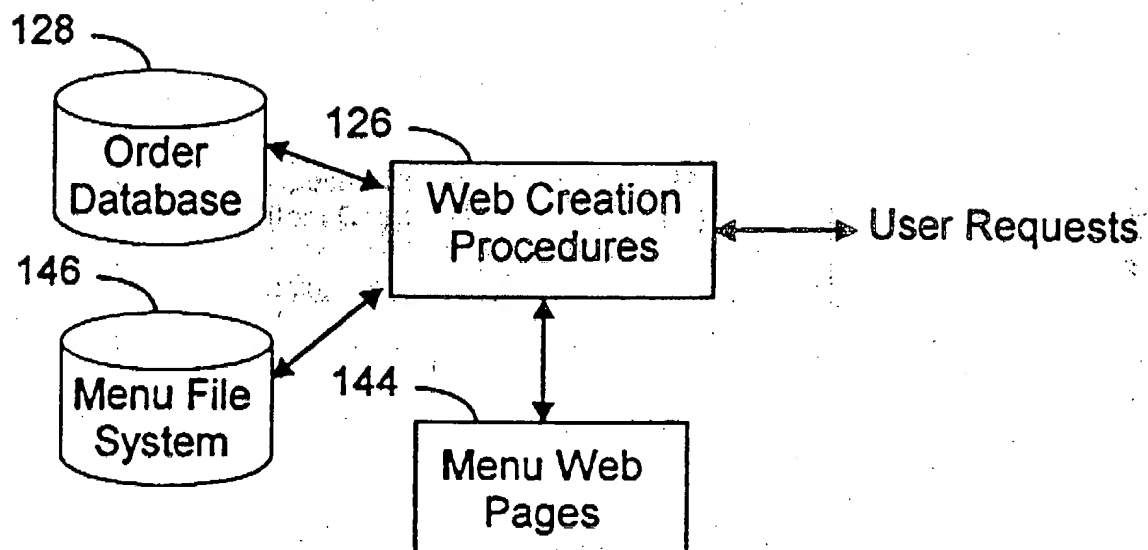
Home
Repeat Customer
Cuisines
○ Restaurants

User Profile
Opportunities
Help
About Us
Nominate Restaurants

Click here to see Special Savings

Ballard Firehouse
5429 Russell Ave NW Seattle, WA
Relax we'll bring it to you

Cucina! Cucina!
901 Fairview N Seattle, WA
Where you will receive the finest food in town. Additional 3% charge on Visa, Master Card and American Express.

Elliott Bay Pizza Company
2115 Queen Anne Ave. N. Seattle, WA
Queen Anne's newest pizzeria owned and operated by Wayne & Kelly Glass. The Gourmet Pizza is known for its distinctive marinara sauce.

Enzo's
605 Queen Anne Ave N Seattle, WA
Relax we'll bring it to you

[Menu & Ordering]

Gardelli's Pizza & Pasta
2422 1st Ave. Seattle, WA
Taste the difference! Everything is home-made: Dough, pizza sauce, italian sausage, dressings and clam sauce. We use low-fat cheese and no oil in any of our sauces.

1-5	6-10	11-11
Ba-Ga	Go-Pi	Ro-Ro

FIG. 8

Home
Repeat Customer
Cuisines
Restaurants
○ Menu

User Profile
Opportunities
Help
About Us
Nominate Restaurants

Enzo's Delivery - Menu
605 Queen Anne Ave N Seattle, WA

Categories	Order Summary
Pizza	Nothing Yet
Specialty Pizza	Click Here!
Antipasti	To Proceed
Salad	
Pesce Fresco	
For The Love Of Pasta	
Enzos Favorite Pastas	
Carne E Pollo	
Enzos Classic Pastas	
Enzos Classic Pasta Side	
Orders	
Desserts	
Beverages	

Pizza Every Enzos Pizza Begins With Fresh, Hand Tossed Dough, Then Covered Generously With Our Rich Pizza Sauce And Real Mozzarella.

Cheese Pizza		Small 10" – 7.35, Medium 12" – 8.35, Large 14" – 9.35, Extra Large 16" – 10.35
One Item Pizza		Small 10" – 8.85, Medium 12" – 9.85, Large 14" – 11.10, Extra Large 16" – 12.10
Two Item Pizza		Small 10" – 10.35, Medium 12" – 11.35, Large 14" – 12.85, Extra Large 16" – 13.85
Three Item Pizza		Small 10" – 11.85, Medium 12" – 12.85, Large 14" – 14.60, Extra Large 16" – 15.60
Four Item Pizza		Small 10" – 13.35, Medium 12" – 14.35, Large 14" – 16.35, Extra Large 16" – 17.35
Five Item Pizza		Small 10" – 14.85, Medium 12" – 15.85, Large 14" – 18.10, Extra Large 16" – 19.10

FIG. 9

Enzo's Delivery - Menu
605 Queen Anne Ave N Seattle, WA

Categories	Order Summary

Categories

Pizza
Specialty Pizza
Antipasti
Salad
Pesce Fresco
For The Love Of Pasta
Enzos Favorite Pastas
Carne E Pollo
Enzos Classic Pastas
Enzos Classic Pasta Side
Orders
Desserts
Beverages

Order Summary

Nothing Yet

Click Here!
To Proceed

Home
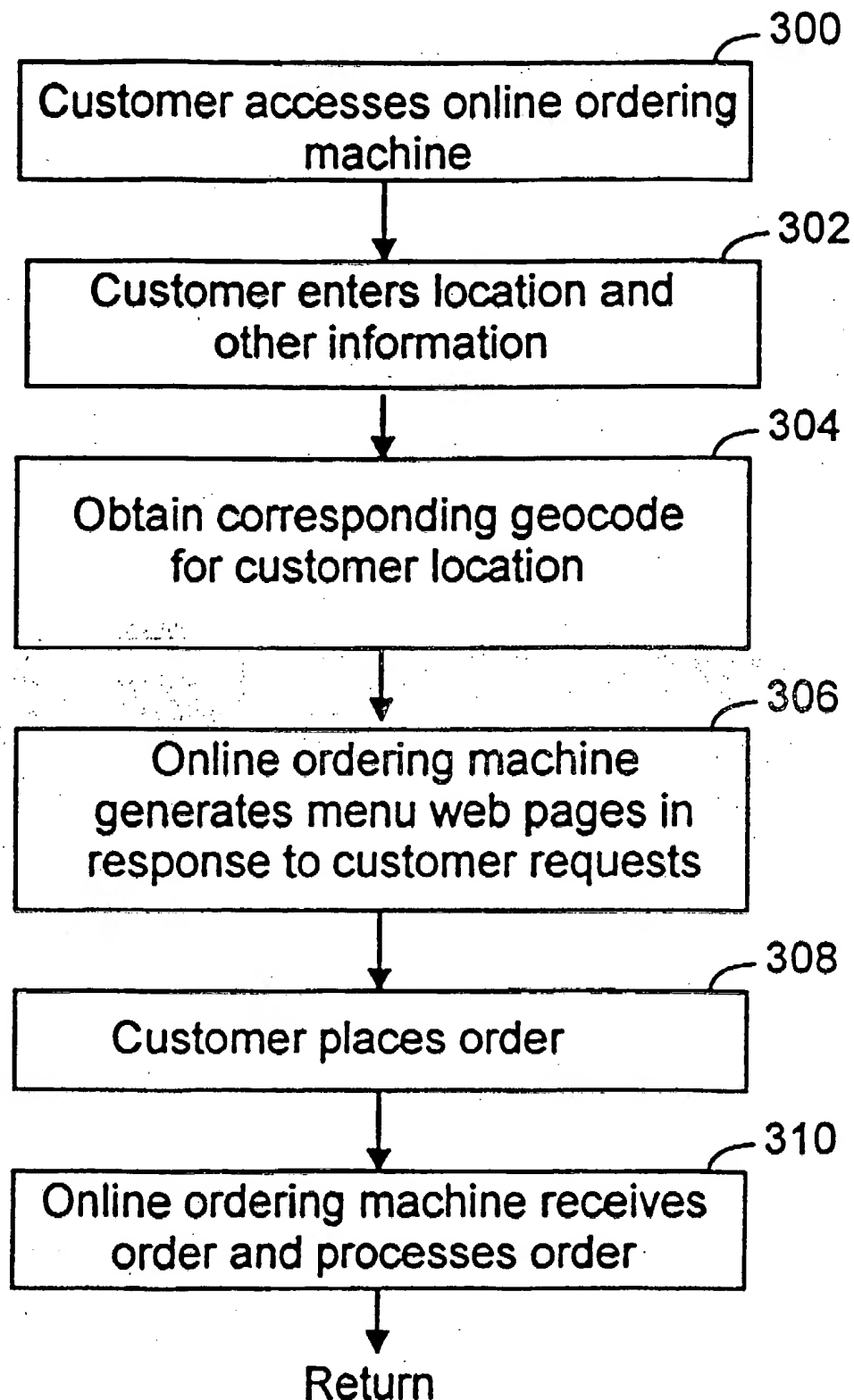Repeat Customer
Cuisines
Restaurants
○ Menu

User Profile
Opportunities
Help
About Us
Nominate Restaurants

Pesce Fresco All dinners served with tossed salad and bread.

#21 Bistecca Di Halibut Alla Griglia	Tender moist halibut steak smothered in lemon butter sauce with mushrooms or our homemade pesto sauce and pasta side.	Serving – 14.85
#22 Gamberoni Bianchi	Prawns sauteed in garlic and lemon with mushrooms and broccoli. Includes a side of pasta.	Serving – 14.85
#23 Gamberoni Rossi	Prawns in spicy tomato basil sauce with mushrooms. Includes a side of pasta.	Serving – 14.85
#24 Gamberoni Con Spinaci	Prawns sauteed in lemon butter sauce and tossed with fresh spinach and tomatoes. Served over a hot bed of linguine.	Serving – 14.85
#25 Pesce Del Pescatore	Halibut, prawns and fresh clams delicately simmered in a spicy red sauce and served over a bed of linguine.	Serving – 14.85

FIG. 10

```
                                                      ┌─ 300
   ┌──────────────────────────────────────┐
   │   Customer accesses online ordering   │
   │              machine                  │
   └──────────────────────────────────────┘
                    │
                    ▼                                 ┌─ 302
   ┌──────────────────────────────────────┐
   │      Customer enters location and     │
   │           other information           │
   └──────────────────────────────────────┘
                    │
                    ▼                                 ┌─ 304
   ┌──────────────────────────────────────┐
   │      Obtain corresponding geocode     │
   │          for customer location        │
   └──────────────────────────────────────┘
                    │
                    ▼                                 ┌─ 306
   ┌──────────────────────────────────────┐
   │       Online ordering machine         │
   │    generates menu web pages in        │
   │   response to customer requests       │
   └──────────────────────────────────────┘
                    │
                    ▼                                 ┌─ 308
   ┌──────────────────────────────────────┐
   │         Customer places order         │
   └──────────────────────────────────────┘
                    │
                    ▼                                 ┌─ 310
   ┌──────────────────────────────────────┐
   │   Online ordering machine receives    │
   │     order and processes order         │
   └──────────────────────────────────────┘
                    │
                    ▼
                 Return
```

FIG. 11

cybermeals™

The World's Largest Take-Out and Delivery Service!

Order from your local restaurants.

Demo cybermeals
Visit cybermeals.

Click Here!

Repeat Customer
Enter login name and password below.

LOGIN NAME

PASSWORD **Click Here!**
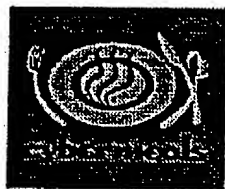
New Customer
Register now to begin ordering.

Click Here!

| HELP | ABOUT CYBERMEALS | OPPORTUNITIES | NOMINATE YOUR FAVORITE RESTAURANT |

Switch to Text Version
© 1997 cybermeals

FIG. 12A

Home
O Welcome Back

User Profile
Opportunities
Help
About Us
Nominate Restaurants   254

4 what type of restaurant are you looking for?

DELIVERY

TAKE OUT

252

Switch to Text Version
© 1997 cybermeals
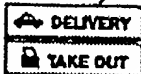
Repeat Customer

Welcome to cybermeals, c hart!
To add or change an address click here.

1 Now I search for restaurants that deliver to...
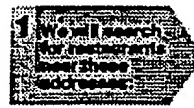
⊙work
850 hansen way , palo alto, ca 94304

Use a Saved Order   Plan An Advance On

FIG. 12B

Cuisines

Thank you for visiting cybermeals! As if you were at:
The Seattle Space Needle - 219 Fourth Avenue North , Seattle, WA
98109

This is a DEMO - Register Now!

Click Here to see All 56 Restaurants. A restaurant may be listed in more than one cuisine.

Cravings (31)	Asian (17)	European (13)	American (16)	Exotic (1)
€-Pizza (11)	Chinese (8)	Italian (11)	Mexican (4)	Caribbean
Deli (3)	Thai (3)	French	Fast Food (1)	South American
Sandwiches (18)	Japanese (4)	Mediterranean	Health	Persian
Coffee Shop (3)	Indian (2)	Greek	American (7)	North African
Hamburgers (9)	Korean (2)	Bistro (2)	Bar-B-Que (4)	Lebanese (1)
Salads (19)		German	Soul Food (2)	
Breakfast (5)		English	Southwestern	
Seafood (10)			Tex-Mex (1)	
Wraps				
Chicken (8)				

FIG. 12C

Place order in order database ⎯312

Generate order text file ⎯314

Fax order? ⎯316

Y → Format order for facsimile transmission and fax order ⎯318 → Generate voice data informing vendor of fax order ⎯320

N

Generate voice data of order ⎯322

Transmit voice data via telephone call to restaurant ⎯324

Successful? ⎯326

N → # of retries > limit? ⎯328

N

Y → Initiate failure actions ⎯329

Return

Y

Retrieve response from restaurant ⎯330

Successful? ⎯332

N → Initiate failure actions and update order database ⎯334 → Return

Y

Update order database and respond to customer ⎯336

Return

FIG. 13

INTERNET ONLINE ORDER METHOD AND APPARATUS

The present invention relates to systems and methods for electronic commerce and particularly to an Internet self-ordering mechanism.

BACKGROUND OF THE INVENTION

The Internet has provided consumers with a new medium for electronic commerce. Currently, there exist several Internet services that provide consumers with access to menus for food products that can be ordered online.

World Wide Waiters is one such service in which each consumer and participating restaurants are linked via the Internet to the World Wide Waiter server. The World Wide Waiter server provides a web site that includes web pages having menus of several participating restaurants with home delivery and/or take-out service. The consumer can search for a menu either using a restaurant's name or a city.

The consumer can then place an order from the menu of a selected restaurant which is transferred to the World Wide Waiter server. The World Wide Waiter server then emails the order over the Internet to the restaurant. The restaurant confirms the order to the World Wide Waiter server. Upon receiving the restaurant's confirmation, the World Wide Waiter server transmits to the consumer a confirming email that the restaurant has received the order and will deliver the order.

In addition, World Wide Waiters allows a customer to fax the order directly to the World Wide Waiters office. Personnel at the World Wide Waiters office contacts the restaurant in order to process the order.

There are several shortcomings to this system. First, each participating restaurant needs to have Internet access to the World Wide Waiter server. This additional expense can deter restaurant proprietors from utilizing this type of home delivery service.

Second, the World Wide Waiter server downloads to the customer statically created HTML pages representing the menus of each participating restaurant. These menu web pages are preconfigured and stored in the server. The use of these statically configured menu web pages becomes a burden since it hampers the maintainability and scalability of the server to take on additional restaurants.

Waiters on Wheels is another Internet online ordering service that provides Internet consumers with a web site to advertise menus of participating restaurants and that accepts consumer orders. It faxes an order to a participating restaurant. It provides its own waiters which pick up the take-out order from a participating restaurant and deliver it to the consumer's location.

The menus are stored by the geographic location of a Waiters on Wheels office. A consumer searches those menus associated with the Waiters on Wheels office within their delivery location. A consumer can order online from the menu. The Waiters on Wheels server confirms receipt of the consumer's order by telephone. If the restaurant cannot deliver the order to the Internet consumer, the restaurant telephones the Waiters on Wheels office. The office in turn calls the consumer to inform them of the problem.

PizzaNet is another prior art online ordering system that provides Internet consumers with a web site including menus of participating pizza restaurants. To place an order, consumers enter their zip code, telephone area code, and the first three digits of their phone number. A list of participating

pizza restaurants within the consumer's location is provided along with their menus. The consumer can then select the restaurant of his or her choice and order from its menu. PizzaNet receives the order from the Internet and faxes to the restaurant a copy of the order. In some instances, PizzaNet verifies the order by a return phone call and in other cases the pizza restaurant verifies the order by return phone call.

A shortcoming of the Waiter on Wheels and PizzaNet systems is in its method of communicating with the restaurant through a facsimile machine. The additional expense incurred in installing a facsimile machine can deter prospective restaurants from participating in this system. Further, once an order is received, all subsequent communications between the customer and the delivery system are performed via telephone calls which requires manual intervention.

SUMMARY OF THE INVENTION

The present invention pertains to an online ordering machine that manages the distribution of home delivered products over a distributed computer system. The distributed computer system includes a group of customers connected to client computers and at least one server computer system that executes the online ordering machine. The online ordering machine provides the customers with product information from various vendors whose delivery range is within the customer's location or with product information from vendors having take out service within a specified range from the customer's location. The online ordering machine accepts orders from the customer for a particular product from a selected vendor. The order is converted into voice instructions which are transmitted to the vendor through a telephone call. Alternatively, the order can be transmitted via facsimile transmission with follow up voice instructions transmitted via a telephone call seeking a response. The vendor responds to the voice-prompted instructions which are then used to confirm the order.

In an embodiment of the present invention, the online ordering machine enables Internet customers to order food products from various participating restaurants. The online ordering machine is a Web server including a web creation procedure that dynamically generates menu web pages in response to a customer's request. The menu web pages list the various products for delivery or takeout service. An Internet customer is provided with a menu web page listing those vendors or restaurants that service the customer's location. In addition, the online ordering machine indicates which restaurants are open at the time the customer makes the request.

The online ordering machine categorizes the location of each participating restaurant by a set of longitude and latitude coordinates. Each customer's delivery location is also categorized by a set of longitude and latitude coordinates. The online ordering machine searches for those restaurants whose delivery area lies within the customer's location based on the restaurant's and customer's longitude and latitude coordinates. Likewise, the online ordering machine searches for those restaurants having takeout service within the customer's location based on the restaurant's and customer's longitude and latitude coordinates.

Once an Internet customer places an order, the order is converted into voice data. An interactive voice recognition (IVR) procedure receives the order as an order text file and converts the order into a voice file of recorded speech segments. The IVR procedure automatically places a call to the restaurant and transmits the voice file which is played

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when the call is received. In addition, the IVR procedure can transmit the order as a facsimile transmission and follow up with an automated telephone call. In either case, voice prompts are used to obtain a response from the restaurant in the form of one or more DTMF tones. The online ordering machine then relays a status response to the customer.

BRIEF DESCRIPTION OF THE DRAWINGS

Additional objects and features of the invention will be more readily apparent from the following detailed description and appended claims when taken in conjunction with the drawings, in which:

FIG. 1 is a block diagram of an embodiment of a distributed computer system incorporating the present invention.

FIG. 2 is a block diagram of the client computer and online ordering machine as shown in FIG. 1.

FIG. 3 illustrates the order database schema in a preferred embodiment of the present invention.

FIG. 4 illustrates the geocodes in a preferred embodiment of the present invention.

FIG. 5 is a block diagram illustrating the partitioning of a grid area into smaller areas in a preferred embodiment of the present invention.

FIG. 6 is an exemplary format of the order text file in a preferred embodiment of the present invention.

FIG. 7 is a block diagram illustrating the menu web page creation in a preferred embodiment of the present invention.

FIGS. 8–10 are schematic representations of exemplary menu web pages that are dynamically created in response to a customer's response.

FIG. 11 is a flow chart illustrating the steps used to process an order in a preferred embodiment of the present invention.

FIGS. 12A–12C are schematic representations of exemplary menu web pages used to receive an order in a preferred embodiment of the present invention.

FIG. 13 is a flow chart illustrating the steps used to process an order in a preferred embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Computer Architecture

FIG. 1 illustrates a system 100 representing an embodiment of the present invention including a number of client computers 102A–102N and one or more online ordering machines 106 in communication via a communications link 104. In a preferred embodiment, an online ordering machine 106 is a server computer. An online ordering machine 106 is in communication with one or more vendors 108A–108M through one or more telephone links 110.

The communication link 104 generically refers to any type of wire or wireless link between computers, such as but not limited to a local area network, a wide area network, or a combination of networks. In a preferred embodiment of the present invention, the communications link 104 can be a network such as the Internet.

A client computer 102 can be any type of computing device, such as but not limited to, desktop computers, workstations, laptops, and/or mainframe computers. One or more users (not shown) can be associated with each client computer 102.

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FIG. 2 illustrates the client computer 102 which includes a CPU 112, a user interface 114, a memory 119, and a communication interface 116. The communications interface 116 is used to communicate with the server computer 106 as well as other system resources not shown. The memory 119 of the client computer 102 may be implemented as RAM (random access memory) or a combination of RAM and non-volatile memory such as magnetic disk storage. The memory 119 can contain the following:

an operating system 120;
Internet access procedures 122;
as well as other procedures and files.

FIG. 2 also illustrates the online ordering machine 106 which includes a central processing unit (CPU) 112, Interactive Voice Recognition (IVR) hardware 113, a user interface 114, a memory 118, a communications interface 116. The online ordering machine 106 can be any type of computing device, such as but not limited to, desktop computers, workstations, laptops, and/or mainframe computers. The communications interface 116 is used to communicate with the client computers 102 as well as other system resources not shown.

The IVR hardware 113 connects the online ordering machine 106 to a telephonic link 110 coupled to one or more telephonic devices, such as but not limited to a facsimile machine 107A and/or a telephone 107M. Each telephonic device 107 can be associated with a particular vendor 108. The IVR hardware 113 provides interactive voice recognition capabilities including voice processing, speech recognition, and text-to-speech processing.

In a preferred embodiment of the present invention, the IVR hardware 113 consists of three types of devices: (1) one or more Dialogic™ CP/12SC™ facsimile boards that provide the online ordering machine 106 with 60 or more facsimile channels, the facsimile board enables communication between the online ordering machine 106 and a facsimile machine 107 associated with a vendor 108; (2) one or more Dialogic™ D/240SC-T1™ boards that provide 24 digital signal processor (DSP)-based ports to an on-board T-1 telephone interface; and (3) one or more Dialogic™ D/41 ESC™ boards that provide four DSP-based voice ports to an on-board analog telephone interface. The facsimile board enables communication between the online ordering machine 106 and a facsimile machine 107A associated with a vendor 108. The D/240SC-T1™ board enables interactive voice recognition capabilities between the online ordering machine 106 and a vendor 108 having an analog telephonic interface, and the D/41 ESC™ board enables interactive speech recognition capabilities between the online ordering machine 106 and a vendor 108 or customer having an analog telephone interface. A more detailed description of these devices can be found in the product literature for each of these products located at http://ww.dialogic.com which is hereby incorporated by reference as background information.

It should be noted that the present invention is not constrained to the preferred IVR hardware and that other such hardware devices can be used that provide a similar capability.

The memory 118 of the online ordering machine 106 may be implemented as RAM (random access memory) or a combination of RAM and non-volatile memory such as magnetic disk storage. The memory 118 can contain the following:

an operating system 120;
Internet access procedures 122;
web server procedures 124;

web page creation procedures 126 that dynamically generate menu web pages in response to a customer's request;

an order database 128 that includes information on each of the customers, vendors, and received orders;

a geocode database 130 that is used to convert a geographic location such as a street address into longitude and latitude coordinates;

an online ordering procedure 132;

an interactive voice recognition (IVR) procedure 134 that is used to deliver a voice message and obtain a response to the voice message;

a recorded speech database 136 including one or more recorded speech segments;

an order text file 138 that is an ASCII representation of the order in a preferred format;

a voice data file 140;

a geocode procedure 142 that is used to convert a geographic location into its corresponding longitude and latitude coordinates;

one or more menu web pages 144 that are dynamically created by the web creation procedure 126;

a menu file system 146 including one or more menu files representing menu data associated with a particular vendor, preferably, the menu files are binary files stored in a NS encoded format; and

other procedures and data structures.

FIG. 3 illustrates the schema of the order database 128. The order database 128 can include the following tables:

a customer table 150 having an entry for each customer that tenders an order to the online ordering machine 106, the customer entry including information that characterizes a particular customer;

an address table 152 having an entry for each customer and including the latitude 154 and longitude 156 coordinates associated with a customer's address;

an order master table 158 having an entry for each order;

a restaurant table 160 having an entry for each restaurant containing information that describes the restaurant, its services and products, each entry including the latitude 162 and longitude 164 coordinates associated with a restaurant;

a restaurant category table 162 associated with the restaurant table 160 that is used to identify a category associated with a restaurant;

a price range table 168 associated with the restaurant table 160 identifying the price ranges for products offered by a restaurant;

a time zone table 170 associated with the restaurant table 160 indicating the time zone corresponding to a restaurant;

a restaurant delivery table 172;

a payment type table 174;

a restaurant payment table 176;

a restaurant delivery service (RDS) gratuity table 178;

a RDS table 180;

a holiday table 182 associated with the restaurant table and indicating the restaurant's holidays;

an IVR fax code table 184;

an EoSequence table 186;

a RDS Category Fee table 188;

a RDS Cross Zone Fee table 190;

a company table 192;

a RDS grid table 194;

a company fee structure table 196;

a food group table 198;

a RDS zone table 200;

an IVR fax disposition table 202;

a theme table 204;

a disposition table 206;

an hour table 208;

a day of week table 210;

a category table 212;

a fee structure table 214;

an order fee table 216;

a RDS delivery table 218;

a first category theme table 220 and a second category theme table 222;

a credit card table 224; and

a RDS zone delivery table 226.

It should be noted that the present invention is not limited to the database schema shown in FIG. 3. Other schemas can be utilized and other types of databases, other than the relational database shown in FIG. 3 can be utilized as well.

Geocodes

The present invention uses geocodes to determine whether a customer is within a specified geographic area of a restaurant's delivery area or whether a restaurant is within a specified geographic area of the customer's takeout range. The use of geocodes has the advantage of producing more accurate search results. The prior art use of zip codes, cities, or telephone prefixes generally produces unsatisfactory results listing restaurants that do not deliver to the customer's location. In addition, the geocodes can be used to specify a geographic location anywhere within the globe, thereby enabling the online ordering machine to accommodate international locations as well as the United States.

A geocode represents a particular geographic area or grid defined by longitude and latitude coordinates. Longitude and latitude coordinates are used to define a geographic location relative to the surface of the earth. The earth's reference system is composed of surface divisions denoted by geographic lines of latitude and longitude. A specific geographic location can be defined in this system by its respective longitude and latitude coordinates.

FIG. 4 illustrates the earth with latitude and longitude lines. The area 240 is represented by a geocode associated with a latitude and a longitude coordinate. Typically, a latitude coordinate is specified in latitude degrees and a longitude coordinate is specified in latitude degrees.

The technology of the present invention uses the geocodes to identify each customer and vendor in order to determine whether a customer is within a specified geographic area or grid of a restaurant's delivery area or whether a restaurant is within a specified geographic area or grid of the customer's takeout range. A geocode procedure 142 is used that converts the address of each customer and vendor into its respective latitude and longitude coordinates. The latitude and longitude coordinates then become the geocode which represents a particular grid. Next, the online order procedure 132 uses the geocode to search the order database 142 to make the appropriate selections.

In a preferred embodiment, the grid size for the United States was selected between 0.25 and 0.3 miles. For example, a 0.3 mile grid equates to 0.0054 longitude degrees and 0.0043 latitude degrees. Thus, in order to convert the latitude and longitude coordinates of a customer or restaurant location into a geocode, the following mathematical equations can be used:

$$\text{Latitude Id} = \text{trunc } [(\text{latitude in degrees} * 10^6)/4300] + 1,$$

$$\text{Longitude Id} = \text{abs } (\text{trunc}[-(\text{longitude in degrees} * 10^6)/5400] + 1),$$

$$\text{Geocode} = \text{Latitude Id, Longitude Id}$$

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The geocodes can then be used to determine whether a customer is within a specified geographic area of a restaurant's delivery area or whether a restaurant is within a specified geographic area of the customer's take-out range. To determine whether a customer is within a specified geographic area of a restaurant's delivery area, the customer's geocode is used to search the order database 128 for those restaurants having the same geocode.

The following mathematical relation is used to select restaurants that are within a customer's takeout range:

IF the Latitude Id of the restaurant > Latitude Id customer's location
− Takeout Range and
  the Latitude Id of the restaurant < Latitude Id of the customer's location
+ Takeout Range and
  Longitude Id of the restaurant > Longitude Id of the customer's location
− Takeout Range and
  Longitude Id of the restaurant < Longitude Id of the customer's location
+ Takeout Range,
  THEN
    Restaurant is within the Takeout Range.

In certain geographic areas, a grid size between 0.25 and 0.3 miles may be too large for a delivery or takeout range. In such cases, the grid can be partitioned into smaller grid sizes. The larger grid is referred to as the parent grid and the smaller grids are referred to as the child grids.

FIG. 5 illustrates one such example of this partitioning. A parent grid 250 having a grid size between 0.25–0.3 miles is associated with a geocode 09456, 12943. The parent grid 250 is partitioned into four child grids 252–258 having a grid size between 0.06–0.075 miles. Each child grid 252 is associated with a subgrid identifier such as A, B, C, or D that represents an associated geographic region.

A vendor can service one or more of the child grids. For example, vendor X can service child grid A, vendor Y can service child grids A and B, and vendor Z can service child grids A and D. As such, a coding scheme was developed to identify all the possible combinations that can occur. A numeric value is associated with each child grid. For example, child grid A is associated with the value 1, child grid B with the value 2, child grid C with the value 4, and child grid D with the value 8. The sum of these values represent a particular combination of delivery areas. For example, the combination of child grid A and B is identified by a value of 3. Table 1 below shows the encoding scheme for all possible combinations in the child grid scheme shown in FIG. 5.

TABLE 1

VALUE	COMBINATION
1	A
2	B
3	A,B
4	C
5	A,C
6	B,C
7	A,B,C
8	D
9	A,D
10	B,D
11	A,B,D
12	C,D
13	A,C,D
14	B,C,D
15	A,B,C,D

When searching for a matching vendor, the geocode procedure 142 determines the appropriate subgrid identifier

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associated with the customer's location. For example, customer X can be associated with the geocode 09456, 2943A. The online order procedure 132 then searches for those vendors servicing child grid A associated with parent grid 09456, 12943. In the above example, that would encompass searching for all the odd values: 1, 3, 5, 7, 9, 11, 13, and 15.

It should be noted that the technology of the present invention can be practiced with other partitioning or encoding schemes. One skilled in the art can easily modify the present invention to accommodate other subgrid sizes and to even partition the subgrids further. Other encoding schemes can be used to identify the various possible delivery combinations associated with a particular parent grid. In addition, one can combine one or more adjacent grids to formulate a larger delivery or takeout range for a particular geographic area.

Interactive Voice Recognition (IVR) System

The Interactive Voice Recognition (IVR) procedure 134 is used to convert a customer's text order into voice data that is transmitted to the vendor 108. Alternatively, the IVR procedure 134 can convert a customer's order into a format suitable for facsimile transmission.

When a customer's order is received by the online order machine 106, it is converted into an order text file 138 having a prescribed format as shown in FIG. 6. The order text file 138 is then transmitted to the IVR procedure 134. If the order is to be transmitted to the vendor by facsimile transmission, then the IVR procedure 134 formats the order text file 138 into a format that is suitable for facsimile transmission (e.g., postscript format) and transmits the order to the IVR hardware 113. The IVR hardware 113 is used to transmit the order to the vendor 108.

When the order is to be transmitted to the vendor 108 by telephone transmission, the IVR procedure 134 then translates the order text file 138 into a voice data file 140 using the recorded speech database 136. The voice data file 140 is then transmitted to the IVR hardware 113 which transmits the voice data to the vendor 108.

Dynamically Created Menu Web Pages

The online ordering machine 106 generates menu web pages 144 that are specific to a particular customer's request. The creation of the menu web pages 144 is done dynamically at runtime in order to provide data that accommodates a customer's request. The creation of the menu web pages 144 in this manner differs from the prior art online order systems. In the prior art online order systems, the menu web pages are preconfigured and displayed upon request. This becomes a burden to maintain and limits scalability. In the present technology, each menu web page 144 is configured at runtime and customized for a particular customer's request. Thus, each menu web page 144 differs since each customer's request is different as is the customer's location.

FIG. 7 illustrates the components used to dynamically generate a menu web page 144. A web page creation procedure 126 is provided that receives as input one or more customer requests and is linked to the order database 128 and the menu file system 146. The web page creation procedure 126 generates a menu web page 144 based on the input received from the user. The data included in the menu web page 144 is retrieved from the order database 128 and the menu file system 146. The order database 128 contains information such as the operational time of a vendor, the restaurant's logo, the categories of the food products served, and the like. The menu file system 146 includes menu data

associated with each vendor. The menu file system **146** includes a number of menu files stored in an encoded binary format for faster retrieval purposes. The web page creation procedure **126** uses the data in the order database **128** and the menu file system **146** to dynamically generate one or more menu web pages **144** that are customized to a customer's request.

In a preferred embodiment, the web page creation procedure **126** utilizes the WebObjects technology provided by Apple Software. WebObjects is a server technology that links the order database **128** directly to the web server procedures **124** and generates HTML web menu pages **144** based on a customer's request. More detailed information on WebObjects can be found at http://software.apple.com/webobjects which is hereby incorporated by reference as background information.

FIGS. 8–10 are exemplary menu web pages **144**. FIG. 8 is a menu web page **144** showing the first five pizza restaurants that deliver within a particular customer's location. The restaurants shown are selected based on the customer's location and the restaurant's delivery area. As such, this menu web page **144** is dynamically created for this particular customer.

Likewise, FIG. 9 is a menu web page **144** showing the various types of food items that a particular restaurant offers for delivery service within a particular customer's location. This menu web page **144** was created in response to the customer's request for pizza selections. FIG. 10 is a menu web page **144** showing the various types of "pesce fresco" items that a particular restaurant offers for delivery service within a particular customers location. This menu web page **144** was created in response to the customer's request for "pesce fresco" selections.

Ordering Process

FIG. 11 illustrates the steps used by the online ordering machine **106** to process an online order. A customer accesses the online ordering machine **106** through a client computer **102** that is connected to the Internet **104**. The customer enters the appropriate web address or universal resource locator (URL) for the online ordering machine **106** (step **300**). The online order procedure **132** interacts with the client computer **102** by providing access to a series of web pages that can be downloaded to the client computer **102** for the customer's use (step **300**). Initially, a home web page is provided to the client computer **102** which is shown in FIG. 12A.

The customer can register with the online ordering machine **106** which is accomplished by filling out information requested through one or more web pages. The customer is then provided with a web page that prompts the customer for his location as shown in the exemplary web page illustrated in FIG. 12B (step **302**). This web page can also obtain the current time at the customer's location which is returned to the online order procedure **132** (step **302**). The current time is used to determine which restaurants meeting the customer's criteria are currently open. In addition, the web page obtains the type of service that the customer seeks, such as but not limited to take-out service **252** or delivery service **254**. If takeout service is requested, the web page requests the range of miles that the customer is willing to drive. If none is indicated, a default value is provided.

Once the customer's location is provided, the online order procedure **132** converts the customer's location into the appropriate geocode as described above (step **304**).

The online order procedure **132** then searches the order database **128** for those restaurants that deliver to the cus-

tomer's location or are within the customer's desired takeout range (step **306**). This search is performed as described above with respect to the geocode procedure **142**. A menu web page **144** including a list of these restaurants is dynamically created by the web creation procedure **126** and provided to the customer as shown in FIG. 12C.

The customer can then select a particular vendor or restaurant and one or more menu web pages **144** including the selected information that is dynamically created by the web creation procedure **126** and provided to the customer's client computer **102**. The customer can then browse through the menu web pages **144** and select items of interest. The user's selection or requests are used by the web creation procedure **126** to generate one or more menu web pages **144** that are displayed to the customer (step **306**). FIGS. 8–10 illustrate such exemplary menu web pages **144**.

The customer places an order by selecting the appropriate items from the menu web pages **144** (step **308**) which are then transmitted to the online ordering machine **106** (step **310**). The online ordering machine **106** receives the order and processes it as shown in FIG. 13 (step **310**).

Referring to FIG. 13, an entry is generated for the order in the order database **128** (step **312**). An order text file **138** is generated representing the order in accordance with a prescribed format as shown in FIG. 6 (step **314**).

In the case where the order is transmitted by facsimile transmission to the vendor (step **316-Y**), the order text file **138** is then formatted for facsimile transmission and transmitted to the vendor as described above (step **318**). A voice data file **140** is then generated that informs the vendor **108** of the transmitted fax order (step **320**).

In the case where the order is transmitted by a telephone call, the IVR procedure **134** is used to convert the order text file **138** into voice data (step **322**). The IVR procedure **134** performs the conversion by finding prerecorded speech segments stored in the recorded speech database **136** that match the words contained in the order text file **138**. The speech segments are then concatenated into a voice data file **140** that is then transmitted to the IVR hardware **113** (step **324**). The IVR hardware **113** then establishes telephonic communication with the vendor **108** and transmits the voice data to the vendor **108** (step **324**).

In some instances, one or more calls may be made to the vendor **108** before communication is established (step **326-N**). After a predetermined number of unsuccessful attempts have been made that have failed to establish communication to the vendor **108** (step **328-Y**), the online ordering procedure **132** may initiate failure actions. These failure actions can include calling the vendor directly to place the order or to determine the nature of the problem (step **329**). Based on the nature of the problem, in some cases, the customer can be notified of the failed communication and asked to select another vendor **108** (step **329**). In addition, the online order procedure **132** updates the order database **128** to reflect the status of the order (step **329**).

In the case where the online ordering procedure **132** is successful in communicating with the vendor **108** (step **326-Y**), the vendor **108** hears a recorded message including voice prompts for responses from the vendor **108**. An exemplary transcript of such a recorded message can be as follows:

This is cybermeals with (an/a repeat) order for (delivery/ carry out). Press 1 when you are ready to take this order.

When the employee presses 1, the voice continues with the following: The customer's phone number is . The

customer's name is . The address is (only if the order is for delivery). The order is . Total prices excluding tax and coupons is .

The employee is then given the option of pressing further keys: 5 to accept the order, 6 to decline the order, 2 to pause the order, 3 to repeat the order, 4 to hear only the address repeated, 7 to repeat the food items, total price, and payment method, 8 to repeat the phone number, and * to just repeat the last segment you were listening to.

Finally, the voice requests that the vendor press keys to indicate how long the order will take to deliver.

If the IVR procedure 134 encounters any failures in retrieving the vendor's response (step 332-N), the online order procedure 132 initiates one or more failure recovery actions to rectify the failure. For example, if the vendor 108 does not respond to a telephonic order, a manual telephone call can be made to the vendor 108 in order to ascertain the nature of the problem or to obtain the response.

If the IVR procedure 134 receives a response from the vendor 108 (step 332-Y), the online order procedure 132 transmits a notification to the customer indicating the status of an order and updates the order database 128 with the status thereby completing the order (step 336). Notification to the customer can be by an email message, or other communication medium, and can include an expected delivery time.

In addition to the aforementioned steps, the online order procedure 132 can also transmit to the vendor 108 directions to the customer's location either as a facsimile transmission, as a telephone call, email message, and the like. Likewise, the online order procedure 132 can transmit through any medium directions to a vendor's location to a customer requesting takeout service.

Alternate Embodiments

The foregoing description, for purposes of explanation, used specific nomenclature to provide a thorough understanding of the invention. However, it will be apparent to one skilled in the art that the specific details are not required in order to practice the invention. In other instances, well known circuits and devices are shown in block diagram form in order to avoid unnecessary distraction from the underlying invention. Thus, the foregoing descriptions of specific embodiments of the present invention are presented for purposes of illustration and description. They are not intended to be exhaustive or to limit the invention to the precise forms disclosed, obviously many modifications and variations are possible in view of the above teachings. The embodiments were chosen and described in order to best explain the principles of the invention and its practical applications, to thereby enable others skilled in the art to best utilize the invention and various embodiments with various modifications as are suited to the particular use contemplated. It is intended that the scope of the invention be defined by the following claims and their equivalents.

Further, the method and system described hereinabove is amenable for execution on various types of executable mediums other than a memory device such as a random access memory. Other types of executable mediums can be used, such as but not limited to, a computer readable storage medium which can be any memory device, compact disc, or floppy disk.

Although the present invention has been described with reference to ordering food products from restaurants, it is not limited to this particular product or vendor. The present invention can be used for other electronic commerce purposes, other commodities, other types of vendors, and other types of services other than delivery or takeout.

In addition, the present invention is not constrained to transmitting a customer's order to the vendor through the interactive voice recognition system as described above. A modem connection can be established which will enable communication between the online ordering machine and the vendor through the Internet thereby allowing email communication, web communication, and the like.

What is claimed is:

1. A method for exchanging data in a distributed computer system comprising a plurality of client computers and at least one server computer connected by a communications link to the client computers, the server computer capable of connecting by one or more communications links to a plurality of vendors, said method comprising the steps of:

storing vendor data associated with the vendors;

associating with each vendor at least one geocode representing a geographic location associated with a particular vendor;

receiving a request for vendor data from one of the client computers, the request including a geographic location associated with the requesting client computer;

converting the requesting client computer's associated geographic location into a corresponding geocode;

selecting vendor data that is associated with zero or more vendors having a geocode that is compatible with the requesting client computer's geocode; and

providing the selected vendor data to the requesting client computer.

2. The method of claim 1,

wherein said providing step further comprises the step of:

dynamically creating one or more menu web pages including the selected vendor data in response to the request; and

transmitting the menu web pages to the requesting client computer.

3. The method of claim 1,

wherein each geocode includes a latitude coordinate and a longitude coordinate.

4. The method of claim 1,

wherein the vendor geocode represents a delivery range;

said selecting step further comprises the step of:

finding one or more vendors whose geocode matches the requesting client computer's geocode.

5. The method of claim 4,

said selecting step further comprises the steps of:

associating an operational time with each vendor;

obtaining a current time from the requesting client computer; and

indicating which of the found vendors are operational when the request is made.

6. The method of claim 1,

said selecting step further comprises the steps of:

obtaining a takeout range from the requesting client computer; and

selecting those vendors whose geocode is within the takeout range of the requesting client computer's geocode.

7. The method of claim 1 further comprising the steps of:

obtaining an order from the requesting client computer for a vendor product from a select vendor;

representing the order as voice data; and

transmitting the voice data to the select vendor through a
telephonic link.

8. The method of claim 7, further comprising the steps of:

receiving a reply from the select vendor; and

transmitting a response to the requesting client computer.

9. The method of claim 1 further comprising the steps of:

obtaining an order from the requesting client computer for
a vendor product from a select vendor; and

transmitting the order to the select vendor as a facsimile
transmission.

10. The method of claim 9 further comprising the steps of:

transmitting to the select vendor a telephonic communi-
cation indicating the facsimile transmission;

obtaining a reply from the vendor; and

forwarding a response to the requesting client computer
indicating the reply.

11. An order entry apparatus for managing the procure-
ment of orders for vendor products on a computer network,
said computer network comprising a plurality of client
computers in communication with the order entry apparatus
by a first communication link, the order entry apparatus
capable of being connected by one or more communications
links to a plurality of vendors, said apparatus comprising:

a plurality of vendors, each vendor associated with a
vendor geocode representing a location associated with
the vendor;

a plurality of users, each user associated with a particular
client computer, each user associated with a user geo-
code representing a geographic location associated
with the user;

a plurality of vendor data; and

an online ordering procedure having a capability to
receive a request for vendor data from a requesting user
and to select vendor data associated with vendors
having a geocode compatible with the geocode of the
requesting user.

12. The apparatus of claim 11,

wherein each geocode includes a latitude and a longitude
coordinate.

13. The apparatus of claim 11, comprising:

a web page creation procedure having a capability to
dynamically generate one or more menu web pages
including the select vendor data in response to the
request received from the requesting user.

14. The apparatus of claim 11,

wherein the online order procedure further includes the
capability to select vendor data associated with one or
more vendors having a vendor geocode that matches
the requesting user geocode.

15. The apparatus of claim 11,

wherein the online order procedure further includes the
capability to select vendor data within a takeout range
of the requesting user geocode.

16. The apparatus of claim 11, comprising:

a geocode procedure having the capability to map a
geographic location into a geocode.

17. The apparatus of claim 11:

wherein the online order procedure includes the capability
to receive an order for one or more vendor products;
and

further comprising an interactive voice recognition (IVR)
procedure having the capability to convert the order
into voice data and to transmit the voice data through
a communication link to a particular vendor.

18. The apparatus of claim 17:

wherein the IVR procedure includes the capability to
receive a reply from the vendor through a communi-
cation link; and

wherein the online order procedure includes the capability
to transmit a response to the requesting user indicating
the reply.

19. The apparatus of claim 17:

wherein the IVR procedure includes the capability to
transmit the order through a communication link to a
particular vendor.

20. The apparatus of claim 19:

wherein the IVR procedure includes the capability to
receive a reply from the vendor through a communi-
cation link; and

wherein the online order procedure includes the capability
to transmit a response to the requesting user indicating
the reply.

21. A computer readable storage medium that directs a
computer to function in a specified manner, comprising:

a plurality of vendors, each vendor associated with a
vendor geocode representing a location associated with
the vendor;

a plurality of users, each user associated with a particular
client computer, each user associated with a user geo-
code representing a geographic location associated
with the user;

a plurality of vendor data; and

an online ordering procedure having a capability to
receive a request for vendor data from a requesting user
and to select vendor data associated with vendors
having a geocode compatible with the geocode of the
requesting user.

22. The apparatus of claim 21,

wherein each geocode includes a latitude and a longitude
coordinate.

23. The apparatus of claim 21, comprising:

a web page creation procedure having a capability to
dynamically generate one or more menu web pages
including the select vendor data in response to the
request received from the requesting user.

24. The apparatus of claim 21,

wherein the online order procedure further includes the
capability to select vendor data associated with one or
more vendors having a vendor geocode that matches
the requesting user geocode.

25. The apparatus of claim 21,

wherein the online order procedure further includes the
capability to select vendor data within a takeout range
of the requesting user geocode.

26. The apparatus of claim 21, comprising:

a geocode procedure having the capability to map a
geographic location into a geocode.

27. The apparatus of claim 21:

wherein the online order procedure includes the capability
to receive an order for one or more vendor products;
and

further comprising an interactive voice recognition (IVR)
procedure having the capability to convert the order
into voice data and to transmit the voice data through
a communication link to a particular vendor.

28. The apparatus of claim 27:

wherein the IVR procedure includes the capability to
receive a reply from the vendor through a communi-
cation link; and

wherein the online order procedure includes the capability to transmit a response to the response to the requesting user indicating the reply.

29. The apparatus of claim 27:

wherein the IVR procedure includes the capability to transmit the order through a communication link to a particular vendor.

30. The apparatus of claim 29:

wherein the IVR procedure includes the capability to receive a reply from the vendor through a communication link; and

wherein the online order procedure includes the capability to transmit a response to the requesting user indicating the reply.

31. The method of claim 1,

wherein one or more of said communications links to said vendors comprise a computer network link.

32. The method of claim 1,

wherein one or more of said communications links to said vendors comprise the internet.

33. The method of claim 11,

wherein one or more of said communications links to said vendors comprise a computer network link.

34. The method of claim 11,

wherein one or more of said communications links to said vendors comprise the internet.

35. The apparatus of claim 21:

wherein the online order procedure includes the capability to receive an order for one or more vendor products; and

further comprising a procedure to transmit the order information through a communication link to a particular vendor.

36. The apparatus of claim 35:

wherein the procedure includes the capability to receive a reply from the vendor through a communication link; and

wherein the online order procedure includes the capability to transmit a response to the response to the requesting user indicating the reply.

37. The method of claim 35,

wherein said communication link to a particular vendor comprises a computer network link.

38. The method of claim 35,

wherein said communication link to a particular vendor comprises the internet.

39. The method of claim 36,

wherein said communication link to a particular vendor comprises a computer network link.

40. The method of claim 36,

wherein said communication link to a particular vendor comprises the internet.

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